HIPIFY Documentation

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HIPIFY is a ROCm tool to help developers migrate GPU programming from NVIDIA's CUDA language to AMD's HIP C++ programming language for use on AMD GPUs. HIPIFY includes two tools offering different levels of capability:

- `hipify-clang`: A clang-based tool that parses CUDA code and converts it to HIP code. It handles syntax changes, API calls, and kernel launch differences.
- `hipify-perl`: A simpler tool generated from `hipify-clang` that replaces CUDA API calls with HIP equivalents for basic code translation needs. `hipify-perl` is useful for simple CUDA programs, but offers less error detection when running into issues during translation.

Note

hipify_torch is a related tool that also translates CUDA source code into portable HIP C++. It was developed as part of the PyTorch project to cater to the project's unique requirements, was found to be useful for PyTorch-related projects, and released as an independent utility.

HIPIFY does not automatically convert all CUDA code into HIP code seamlessly. While it is a powerful tool for translating CUDA code to HIP, there are some limitations and areas where manual intervention is often required. HIPIFY can automatically convert many CUDA runtime API calls, kernel launch syntax, standard CUDA library functions where there is a HIP library equivalent, specific keywords like `__global__` and `__device__`. However, HIP is not a complete replacement for CUDA, and HIPIFY cannot automatically translate all code. CUDA libraries, or third-party libraries that have no HIP equivalent cannot be translated. In addition, code which is optimized for performance on NVIDIA GPUs might require additional rework to optimize performance on AMD GPUs.

After migrating code through HIPIFY, you should perform a code review to ensure functional correctness, replace any unsupported libraries or constructs with HIP or ROCm features. Debug and test the new HIP program, and optimize the performance on the target AMD GPUs.

HIPIFY is open-source and freely available as part of the ROCm ecosystem. You can find the HIPIFY code on AMD's GitHub HIPIFY repository.

The documentation is structured as follows:

Building

- *Building hipify-clang*
- *Building hipify-perl*

How to

- *Use hipify-clang*
- *Use hipify-perl*

API reference

- *hipify-clang command*
- *hipify-perl command*
- *Supported APIs*

To contribute to the documentation, refer to Contributing to ROCm.

You can find licensing information on the Licensing page.

CHAPTER

ONE

BUILDING HIPIFY-CLANG

After cloning the HIPIFY repository (`git clone https://github.com/ROCm/HIPIFY.git`), run the following commands from the HIPIFY root folder.

```
cd .. \
mkdir build dist \
cd build

cmake \
-DCMAKE_INSTALL_PREFIX=../dist \
-DCMAKE_BUILD_TYPE=Release \
../hipify

make -j install
```

To ensure LLVM is found, or in case of multiple LLVM instances, specify the path to the root folder containing the LLVM distribution:

```
-DCMAKE_PREFIX_PATH=/usr/llvm/20.1.8/dist
```

On Windows, specify the following option for CMake: `-G "Visual Studio 17 2022"`

Build the generated `hipify-clang.sln` using `Visual Studio 17 2022` instead of `Make`. See *Windows testing* for the supported tools for building.

As debug build type `-DCMAKE_BUILD_TYPE=Debug` is supported and tested, it is recommended to build `LLVM+Clang` in `debug` mode.

Also, 64-bit build mode (`-Thost=x64` on Windows) is supported, hence it is recommended to build `LLVM+Clang` in 64-bit mode.

You can find the binary at `./dist/hipify-clang` or at the folder specified by the `-DCMAKE_INSTALL_PREFIX` option.

1.1 Testing hipify-clang

`hipify-clang` is equipped with unit tests using LLVM lit or FileCheck.

Build `LLVM+Clang` from sources, as prebuilt binaries are not exhaustive for testing. Before building, ensure that the software required for building belongs to an appropriate version.

1.1.1 LLVM >= 10.0.0

1. Download LLVM project sources.
2. Build LLVM project:

```
cd .. \
mkdir build dist \
cd build
```

Linux:

```
cmake \
  -DCMAKE_INSTALL_PREFIX=../dist \
  -DLLVM_TARGETS_TO_BUILD="X86" \
  -DLLVM_ENABLE_PROJECTS="clang" \
  -DLLVM_INCLUDE_TESTS=OFF \
  -DCMAKE_BUILD_TYPE=Release \
  ../llvm-project/llvm
make -j install
```

Windows:

```
cmake \
  -G "Visual Studio 17 2022" \
  -A x64 \
  -Thost=x64 \
  -DCMAKE_INSTALL_PREFIX=../dist \
  -DLLVM_TARGETS_TO_BUILD="" \
  -DLLVM_ENABLE_PROJECTS="clang" \
  -DLLVM_INCLUDE_TESTS=OFF \
  -DCMAKE_BUILD_TYPE=Release \
  ../llvm-project/llvm
```

Run `Visual Studio 17 2022`, open the generated `LLVM.sln`, build all, and build project `INSTALL`.

3. Install CUDA version 7.0 or greater.
   - In case of multiple CUDA installations, specify the particular version using `DCUDA_TOOLKIT_ROOT_DIR` option:

     Linux:

     ```
     -DCUDA_TOOLKIT_ROOT_DIR=/usr/include
     ```

     Windows:

     ```
     -DCUDA_TOOLKIT_ROOT_DIR="C:/Program Files/NVIDIA GPU Computing Toolkit/CUDA/v12.
     ↪8"

     -DCUDA_SDK_ROOT_DIR="C:/ProgramData/NVIDIA Corporation/CUDA Samples/v12.8"
     ```

4. [Optional] Install cuTensor:
   - To specify the path to cuTensor, use the `CUDA_TENSOR_ROOT_DIR` option:

     Linux:

```
-DCUDA_TENSOR_ROOT_DIR=/usr/include
```

Windows:

```
-DCUDA_TENSOR_ROOT_DIR=D:/CUDA/cuTensor/2.2.0.0
```

5. [Optional] Install cuDNN belonging to the version corresponding to the CUDA version:
   - To specify the path to cuDNN, use the `CUDA_DNN_ROOT_DIR` option:

     Linux:

     ```
     -DCUDA_DNN_ROOT_DIR=/usr/include
     ```

     Windows:

     ```
     -DCUDA_DNN_ROOT_DIR=D:/CUDA/cuDNN/9.11.0
     ```

6. [Optional] Install CUB 1.9.8 for `CUDA < 11.0` only; for `CUDA >= 11.0`, the CUB shipped with CUDA will be used for testing.
   - To specify the path to CUB, use the `CUDA_CUB_ROOT_DIR` option (only for `CUDA < 11.0`):

     Linux:

     ```
     -DCUDA_CUB_ROOT_DIR=/srv/git/CUB
     ```

     Windows:

     ```
     -DCUDA_CUB_ROOT_DIR=D:/CUDA/CUB
     ```

7. Install Python version 3.0 or greater.
8. Install `lit` and `FileCheck`; these are distributed with LLVM.
   - Install `lit` into `Python`:

     Linux:

     ```
     python /usr/llvm/20.1.8/llvm-project/llvm/utils/lit/setup.py install
     ```

     Windows:

     ```
     python D:/LLVM/20.1.8/llvm-project/llvm/utils/lit/setup.py install
     ```

     In case of errors similar to `ModuleNotFoundError: No module named 'setuptools'`, upgrade the `setuptools` package:

     ```
     python -m pip install --upgrade pip setuptools
     ```

   - Starting with LLVM 6.0.1, specify the path to the `llvm-lit` Python script using the `LLVM_EXTERNAL_LIT` option:

     Linux:

     ```
     -DLLVM_EXTERNAL_LIT=/usr/llvm/20.1.8/build/bin/llvm-lit
     ```

     Windows:

```
-DLLVM_EXTERNAL_LIT=D:/LLVM/20.1.8/build/Release/bin/llvm-lit.py
```

- `FileCheck`:

  Linux:

  Copy from `/usr/llvm/20.1.8/build/bin/` to `CMAKE_INSTALL_PREFIX/dist/bin`.

  Windows:

  Copy from `D:/LLVM/20.1.8/build/Release/bin` to `CMAKE_INSTALL_PREFIX/dist/bin`.

  Alternatively, specify the path to `FileCheck` in the `CMAKE_INSTALL_PREFIX` option.

9. To run OpenGL tests successfully on:

   Linux:

   Install GL headers.

   On Ubuntu, use: `sudo apt-get install mesa-common-dev`

   Windows:

   No installation required. All the required headers are shipped with the Windows SDK.

10. Set the `HIPIFY_CLANG_TESTS` option to `ON`: `-DHIPIFY_CLANG_TESTS=ON`
11. Build and run tests.

1.1.2 LLVM <= 9.0.1

1. Download LLVM + Clang sources
2. Build LLVM+Clang:

```
cd .. \
mkdir build dist \
cd build
```

Linux:

```
cmake \
  -DCMAKE_INSTALL_PREFIX=../dist \
  -DLLVM_SOURCE_DIR=../llvm \
  -DLLVM_TARGETS_TO_BUILD="X86" \
  -DLLVM_INCLUDE_TESTS=OFF \
  -DCMAKE_BUILD_TYPE=Release \
  ../llvm
make -j install
```

Windows:

```
cmake \
  -G "Visual Studio 16 2019" \
  -A x64 \
  -Thost=x64 \
  -DCMAKE_INSTALL_PREFIX=../dist \
  -DLLVM_SOURCE_DIR=../llvm \
  -DLLVM_TARGETS_TO_BUILD="" \
```

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```
  -DLLVM_INCLUDE_TESTS=OFF \
  -DCMAKE_BUILD_TYPE=Release \
  ../llvm
```

3. Run `Visual Studio 16 2019`, open the generated `LLVM.sln`, build all, and build the `INSTALL` project.

1.2 Linux testing

On Linux, the following configurations are tested:

- Ubuntu 22-23: LLVM 13.0.0 - 20.1.8, CUDA 7.0 - 12.8.1, cuDNN 8.0.5 - 9.11.0, cuTensor 1.0.1.0 - 2.2.0.0
- Ubuntu 20-21: LLVM 9.0.0 - 20.1.8, CUDA 7.0 - 12.8.1, cuDNN 5.1.10 - 9.11.0, cuTensor 1.0.1.0 - 2.2.0.0
- Ubuntu 16-19: LLVM 8.0.0 - 14.0.6, CUDA 7.0 - 10.2, cuDNN 5.1.10 - 8.0.5
- Ubuntu 14: LLVM 4.0.0 - 7.1.0, CUDA 7.0 - 9.0, cuDNN 5.0.5 - 7.6.5

Minimum build system requirements for the above configurations:

- CMake 3.16.8, GNU C/C++ 9.2, Python 3.0.

Recommended build system requirements:

- CMake 4.0.3, GNU C/C++ 13.2, Python 3.13.5.

Here's how to build `hipify-clang` with testing support on `Ubuntu 23.10.01`:

```
cmake
-DHIPIFY_CLANG_TESTS=ON \
-DCMAKE_BUILD_TYPE=Release \
-DCMAKE_INSTALL_PREFIX=../dist \
-DCMAKE_PREFIX_PATH=/usr/llvm/20.1.8/dist \
-DCUDA_TOOLKIT_ROOT_DIR=/usr/local/cuda-12.8.1 \
-DCUDA_DNN_ROOT_DIR=/usr/local/cudnn-9.11.0 \
-DCUDA_TENSOR_ROOT_DIR=/usr/local/cutensor-2.2.0.0 \
-DLLVM_EXTERNAL_LIT=/usr/llvm/20.1.8/build/bin/llvm-lit \
../hipify
```

The corresponding successful output is:

```
-- The C compiler identification is GNU 13.2.0
-- The CXX compiler identification is GNU 13.2.0
-- Detecting C compiler ABI info
-- Detecting C compiler ABI info - done
-- Check for working C compiler: /usr/bin/cc - skipped
-- Detecting C compile features
-- Detecting C compile features - done
-- Detecting CXX compiler ABI info
-- Detecting CXX compiler ABI info - done
-- Check for working CXX compiler: /usr/bin/c++ - skipped
-- Detecting CXX compile features
-- Detecting CXX compile features - done
-- HIPIFY config:
--    - Build hipify-clang    : ON
--    - Test hipify-clang     : ON
```

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```
--    - Is part of HIP SDK    : OFF
--    - Install clang headers : ON
-- Found ZLIB: /usr/lib/x86_64-linux-gnu/libz.so (found version "1.2.13")
-- Found LLVM 20.1.8:
--    - CMake module path     : /usr/llvm/20.1.8/dist/lib/cmake/llvm
--    - Clang include path    : /usr/llvm/20.1.8/dist/include
--    - LLVM Include path     : /usr/llvm/20.1.8/dist/include
--    - Binary path           : /usr/llvm/20.1.8/dist/bin
-- Linker detection: GNU ld
-- ---- The below configuring for hipify-clang testing only ----
-- Found Python: /usr/bin/python3.13 (found suitable version "3.13.5", required range is
↪"3.0...3.14") found components: Interpreter
-- Found lit: /usr/local/bin/lit
-- Found FileCheck: /GIT/LLVM/trunk/dist/FileCheck
-- Initial CUDA to configure:
--    - CUDA Toolkit path     : /usr/local/cuda-12.8.1
--    - CUDA Samples path     :
--    - cuDNN path            : /usr/local/cudnn-9.11.0
--    - cuTENSOR path         : /usr/local/cuTensor/2.2.0.0
--    - CUB path              :
-- Found CUDAToolkit: /usr/local/cuda-12.8.1/targets/x86_64-linux/include (found version
↪"12.8.93")
-- Performing Test CMAKE_HAVE_LIBC_PTHREAD
-- Performing Test CMAKE_HAVE_LIBC_PTHREAD - Success
-- Found Threads: TRUE
-- Found CUDA config:
--    - CUDA Toolkit path     : /usr/local/cuda-12.8.1
--    - CUDA Samples path     : OFF
--    - cuDNN path            : /usr/local/cudnn-9.11.0
--    - CUB path              : /usr/local/cuda-12.8.1/include/cub
--    - cuTENSOR path         : /usr/local/cuTensor/2.2.0.0
-- Configuring done (0.6s)
-- Generating done (0.0s)
-- Build files have been written to: /usr/hipify/build
```

```
make test-hipify
```

The corresponding successful output is:

```
Running HIPify regression tests
============================================================
CUDA 12.8.93 - will be used for testing
LLVM 20.1.8 - will be used for testing
x86_64 - Platform architecture
Linux 6.5.0-15-generic - Platform OS
64 - hipify-clang binary bitness
64 - python 3.13.5 binary bitness
============================================================
-- Testing: 106 tests, 12 threads --
Testing Time: 6.91s

Total Discovered Tests: 106
```

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```
 Passed: 106 (100.00%)
```

1.3 Windows testing

Tested configurations:

LLVM	CUDA	cuDNN	Visual Studio	CMake	Python
4.0.0 - 5.0.2	7.0 - 8.0	5.1.10 - 7.1.4	2015.14.0, 2017.15.5.2	3.5.1 - 3.18.0	3.6.4 - 3.8.5
6.0.0 - 6.0.1	7.0 - 9.0	7.0.5 - 7.6.5	2015.14.0, 2017.15.5.5	3.6.0 - 3.18.0	3.7.2 - 3.8.5
7.0.0 - 7.1.0	7.0 - 9.2	7.0.5 - 7.6.5	2017.15.9.11	3.13.3 - 3.18.0	3.7.3 - 3.8.5
8.0.0 - 8.0.1	7.0 - 10.0	7.6.5	2017.15.9.15	3.14.2 - 3.18.0	3.7.4 - 3.8.5
9.0.0 - 9.0.1	7.0 - 10.1	7.6.5	2017.15.9.20, 2019.16.4.5	3.16.4 - 3.18.0	3.8.0 - 3.8.5
10.0.0 - 11.0.0	7.0 - 11.1	7.6.5 - 8.0.5	2017.15.9.30, 2019.16.8.3	3.19.2	3.9.1
11.0.1 - 11.1.0	7.0 - 11.2.2	7.6.5 - 8.0.5	2017.15.9.31, 2019.16.8.4	3.19.3	3.9.2
12.0.0 - 13.0.1	7.0 - 11.5.1	7.6.5 - 8.3.2	2017.15.9.43, 2019.16.11.9	3.22.2	3.10.2
14.0.0 - 14.0.6	7.0 - 11.7.1	8.0.5 - 8.4.1	2017.15.9.57, [5] 2019.16.11.17, 2022.17.2.6	3.24.0	3.10.6
15.0.0 - 15.0.7	7.0 - 11.8.0	8.0.5 - 8.8.1	2019.16.11.25, 2022.17.5.2	3.26.0	3.11.2
16.0.0 - 16.0.6	7.0 - 12.2.2	8.0.5 - 8.9.5	2019.16.11.29, 2022.17.7.1	3.27.3	3.11.4
17.0.1 [6] - 18.1.8 [7]	7.0 - 12.3.2	8.0.5 - 9.11.0	2019.16.11.48, 2022.17.14.5	4.0.3	3.13.5
19.1.0 - 20.1.8	7.0 - 12.8.1	8.0.5 - 9.11.0	2019.16.11.48, 2022.17.14.5	4.0.3	3.13.5

[5] LLVM 14.x.x is the latest major release supporting Visual Studio 2017.

To build LLVM 14.x.x correctly using Visual Studio 2017, add `-DLLVM_FORCE_USE_OLD_TOOLCHAIN=ON` to corresponding CMake command line.

You can also build LLVM < 14.x.x correctly using Visual Studio 2017 without the `LLVM_FORCE_USE_OLD_TOOLCHAIN` option.

[6] Note that LLVM 17.0.0 was withdrawn due to an issue; use 17.0.1 or newer instead.

[7] Note that LLVM 18.0.0 has never been released; use 18.1.0 or newer instead.

Building with testing support using `Visual Studio 17 2022` on `Windows 11`:

```
cmake
-G "Visual Studio 17 2022" \
-A x64 \
-Thost=x64 \
```

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```
-DHIPIFY_CLANG_TESTS=ON \
-DCMAKE_BUILD_TYPE=Release \
-DCMAKE_INSTALL_PREFIX=../dist \
-DCMAKE_PREFIX_PATH=D:/LLVM/20.1.8/dist \
-DCUDA_TOOLKIT_ROOT_DIR="C:/Program Files/NVIDIA GPU Computing Toolkit/CUDA/v12.8" \
-DCUDA_SDK_ROOT_DIR="C:/ProgramData/NVIDIA Corporation/CUDA Samples/v12.8" \
-DCUDA_DNN_ROOT_DIR=D:/CUDA/cuDNN/9.11.0 \
-DCUDA_TENSOR_ROOT_DIR=D:/CUDA/cuTensor/2.2.0.0 \
-DLLVM_EXTERNAL_LIT=D:/LLVM/20.1.8/build/Release/bin/llvm-lit.py \
../hipify
```

The corresponding successful output is:

```
-- Selecting Windows SDK version 10.0.22621.0 to target Windows 10.0.22631.
-- The C compiler identification is MSVC 19.42.34435.0
-- The CXX compiler identification is MSVC 19.42.34435.0
-- Detecting C compiler ABI info
-- Detecting C compiler ABI info - done
-- Check for working C compiler: C:/Program Files/Microsoft Visual Studio/2022/Community/
↪VC/Tools/MSVC/14.44.35207/bin/Hostx64/x64/cl.exe - skipped
-- Detecting C compile features
-- Detecting C compile features - done
-- Detecting CXX compiler ABI info
-- Detecting CXX compiler ABI info - done
-- Check for working CXX compiler: C:/Program Files/Microsoft Visual Studio/2022/
↪Community/VC/Tools/MSVC/14.44.35207/bin/Hostx64/x64/cl.exe - skipped
-- Detecting CXX compile features
-- Detecting CXX compile features - done
-- HIPIFY config:
--    - Build hipify-clang    : ON
--    - Test hipify-clang     : ON
--    - Is part of HIP SDK    : OFF
--    - Install clang headers : ON
-- Found LLVM 20.1.8:
--    - CMake module path     : D:/LLVM/20.1.8/dist/lib/cmake/llvm
--    - Clang include path    : D:/LLVM/20.1.8/dist/include
--    - LLVM Include path     : D:/LLVM/20.1.8/dist/include
--    - Binary path           : D:/LLVM/20.1.8/dist/bin
-- ---- The below configuring for hipify-clang testing only ----
-- Found Python: C:/Users/TT/AppData/Local/Programs/Python/Python313/python.exe (found␣
↪suitable version "3.13.5", required range is "3.0...3.14") found components:␣
↪Interpreter
-- Found lit: C:/Users/TT/AppData/Local/Programs/Python/Python313/Scripts/lit.exe
-- Found FileCheck: D:/LLVM/20.1.8/dist/bin/FileCheck.exe
-- Initial CUDA to configure:
--    - CUDA Toolkit path     : C:/Program Files/NVIDIA GPU Computing Toolkit/CUDA/v12.8
--    - CUDA Samples path     : C:/ProgramData/NVIDIA Corporation/CUDA Samples/v12.8
--    - cuDNN path            : D:/CUDA/cuDNN/9.11.0
--    - cuTENSOR path         : D:/CUDA/cuTensor/2.2.0.0
--    - CUB path              :
-- Found CUDAToolkit: C:/Program Files/NVIDIA GPU Computing Toolkit/CUDA/v12.8/include␣
↪(found version "12.8.93")
```

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```
-- Found CUDA config:
--    - CUDA Toolkit path     : C:/Program Files/NVIDIA GPU Computing Toolkit/CUDA/v12.8
--    - CUDA Samples path     : C:/ProgramData/NVIDIA Corporation/CUDA Samples/v12.8
--    - cuDNN path            : D:/CUDA/cuDNN/9.11.0
--    - cuTENSOR path         : D:/CUDA/cuTensor/2.2.0.0
--    - CUB path              : C:/Program Files/NVIDIA GPU Computing Toolkit/CUDA/v12.8/
↪include/cub
-- Configuring done (4.4s)
-- Generating done (0.1s)
-- Build files have been written to: D:/HIPIFY/build
```

Run `Visual Studio 17 2022`, open the generated `hipify-clang.sln`, and build the project `test-hipify`.

CHAPTER

TWO

BUILDING HIPIFY-PERL

`hipify-perl` is a perl-based script that heavily uses regular expressions, which is automatically generated from `hipify-clang`. To generate `hipify-perl`, run:

```
hipify-clang --perl
```

You can choose to specify the output directory for the generated `hipify-perl` file using `--o-hipify-perl-dir` option.

CHAPTER

THREE

USING HIPIFY-CLANG

`hipify-clang` is a Clang-based tool for translating NVIDIA CUDA sources into HIP sources.

It translates CUDA source into an Abstract Syntax Tree (AST), which is traversed by transformation matchers. After applying all the matchers, the output HIP source is produced.

Advantages:

- `hipify-clang` is a translator. It parses complex constructs successfully or reports an error.
- It supports Clang options such as -I, -D, and –cuda-path.
- The support for new CUDA versions is seamless, as the Clang front-end is statically linked into `hipify-clang` and does all the syntactical parsing of a CUDA source to HIPIFY.
- It is very well supported as a compiler extension.

Disadvantages:

- You must ensure that the input CUDA code is correct as incorrect code can't be translated to HIP.
- You must install CUDA, and in case of multiple installations specify the needed version using `--cuda-path` option.
- You must provide all the `includes` and `defines` to successfully translate the code.

3.1 Release Dependencies

`hipify-clang` requires:

- CUDA, the latest supported version is 12.8.1, but requires at least version 7.0.
- LLVM+Clang version is determined at least partially by the CUDA version you are using, as shown in the table below. The recommended Clang release is the latest stable release 20.1.8, or at least version 4.0.0.

CUDA version	supported LLVM release versions	Windows	Linux
12.9.0	21.0.0git		
12.8.1[1]	20.1.0, 20.1.1, 20.1.2, 20.1.3, 20.1.4, 20.1.5, 20.1.6, 20.1.7, 20.1.8[1]		
12.6.3	19.1.0, 19.1.1, 19.1.2, 19.1.3, 19.1.4, 19.1.5, 19.1.6, 19.1.7		
12.3.2	17.0.1, 17.0.2, 17.0.3, 17.0.4, 17.0.5, 17.0.6, 18.1.0, 18.1.1, 18.1.2, 18.1.3, 18.1.4, 18.1.5, 18.1.6, 18.1.7, 18.1.8		
12.2.2	16.0.0, 16.0.1, 16.0.2, 16.0.3, 16.0.4, 16.0.5, 16.0.6		
11.8.0	14.0.5, 14.0.6, 15.0.0, 15.0.1, 15.0.2, 15.0.3, 15.0.4, 15.0.5, 15.0.6, 15.0.7		
11.7.1	14.0.0, 14.0.1, 14.0.2, 14.0.3, 14.0.4	Works only with patch due to Clang bug 54609 `patch for 14.0.0` [2] `patch for 14.0.1` [2] `patch for 14.0.2` [2] `patch for 14.0.3` [2] `patch for 14.0.4` [2]	
11.5.1	12.0.0, 12.0.1, 13.0.0, 13.0.1		
11.2.2	11.0.1, 11.1.0		
11.0.1, 11.1.0, 11.1.1	11.0.0	Works only with patch due to Clang bug 47332 `patch for 11.0.0` [3]	Works only with patch due to Clang bug 47332 `patch for 11.0.0` [3]
11.0.0	11.0.0		
11.0.1, 11.1.0, 11.1.1	10.0.0, 10.0.1	Works only with patch due to Clang bug 47332 `patch for 10.0.0` [3] `patch for 10.0.1` [3]	Works only with patch due to Clang bug 47332 `patch for 10.0.0` [3] `patch for 10.0.1` [3]
11.0.0	10.0.0, 10.0.1		
10.1	9.0.0, 9.0.1		
10.0	8.0.0, 8.0.1	Works only with patch due to Clang bug 38811 `patch for 8.0.0` [2] `patch for 8.0.1` [2]	
9.2	7.0.0, 7.0.1, 7.1.0	Works only with patch due to Clang bug 38811 `patch for 7.0.0` [2] `patch for 7.0.1` [2] `patch for 7.1.0` [2]	due to Clang bug 36384
9.0	6.0.0, 6.0.1		
8.0	4.0.0, 4.0.1, 5.0.0, 5.0.1, 5.0.2		
7.5	3.8.0 [4], 3.8.1 [4], 3.9.0 [4], 3.9.1 [4]		

[1] Represents the latest supported and recommended configuration.

[2] Download the patch and unpack it into your `LLVM distributive directory`. This overwrites a few header files. You don't need to rebuild `LLVM`.

[3] Download the patch and unpack it into your `LLVM source directory`. This overwrites the `Cuda.cpp` file. You need to rebuild `LLVM`.

[4] `LLVM 3.x` is no longer supported (but might still work).

In most cases, you can get a suitable version of `LLVM+Clang` with your package manager. However, you can also down-

load a release archive and build or install it. In case of multiple versions of `LLVM` installed, set CMAKE_PREFIX_PATH so that `CMake` can find the desired version of `LLVM`. For example, `-DCMAKE_PREFIX_PATH=D:\LLVM\20.1.8\dist`.

3.2 Usage

> **Note**
>
> For additional details on the following `hipify-clang` command options, see *hipify-clang command*

To process a file, `hipify-clang` needs access to the same headers that are required to compile it with `Clang`:

```
./hipify-clang square.cu --cuda-path=/usr/local/cuda-12.8 -I /usr/local/cuda-12.8/
↪samples/common/inc
```

`hipify-clang` arguments are supplied first, followed by a separator `--` and the arguments to be passed to Clang for compiling the input file:

```
./hipify-clang cpp17.cu --cuda-path=/usr/local/cuda-12.8 -- -std=c++17
```

`hipify-clang` also supports the hipification of multiple files that can be specified in a single command with absolute or relative paths:

```
./hipify-clang cpp17.cu ../../square.cu /home/user/cuda/intro.cu --cuda-path=/usr/local/
↪cuda-12.8 -- -std=c++17
```

To use a specific version of LLVM during hipification, specify the `hipify-clang` option `--clang-resource-directory=` to point to the Clang resource directory, which is the parent directory for the `include` folder that contains `__clang_cuda_runtime_wrapper.h` and other header files used during the hipification process:

```
./hipify-clang square.cu --cuda-path=/usr/local/cuda-12.8 --clang-resource-directory=/
↪usr/llvm/20.1.8/dist/lib/clang/20
```

For more information, refer to the Clang manual for compiling CUDA.

3.3 Using JSON compilation database

For some hipification automation (starting from Clang 8.0.0), you can provide a Compilation Database in JSON format in the `compile_commands.json` file:

```
-p <folder containing compile_commands.json>
- or -
-p=<folder containing compile_commands.json>
```

You can provide the compilation database in the `compile_commands.json` file or generate using Clang based on CMake. You can specify multiple source files as well.

To provide Clang options, use `compile_commands.json` file, whereas to provide `hipify-clang` options, use the `hipify-clang` command line.

> **Note**
>
> Don't use the options separator `--` to avoid compilation error caused due to the `hipify-clang` options being provided before the separator.

Here's an example demonstrating the `compile_commands.json` usage:

```
[
  {
    "directory": "<test dir>",
    "command": "hipify-clang \"<CUDA dir>\" -I./include -v",
    "file": "cd_intro.cu"
  }
]
```

3.4 Hipification statistics

The options `--print-stats` and `--print-stats-csv` provide an overview of what is hipified and what is not, as well as the hipification statistics. Use the `--print-stats` command to return the statistics as text to the terminal, or the `--print-stats-csv` command to create a CSV file to open in a spreadsheet.

> **Note**
>
> When multiple source files are specified on the command-line, the statistics are provided per file and in total.

3.4.1 Print statistics

```
hipify-clang intro.cu -cuda-path="C:/Program Files/NVIDIA GPU Computing Toolkit/CUDA/v12.
↪8" --print-stats
```

```
[HIPIFY] info: file 'intro.cu' statistics:
CONVERTED refs count: 40
UNCONVERTED refs count: 0
CONVERSION %: 100.0
REPLACED bytes: 604
[HIPIFY] info: file 'intro.cu' statistics:
  CONVERTED refs count: 40
  UNCONVERTED refs count: 0
  CONVERSION %: 100.0
  REPLACED bytes: 604
  TOTAL bytes: 5794
  CHANGED lines of code: 34
  TOTAL lines of code: 174
  CODE CHANGED (in bytes) %: 10.4
  CODE CHANGED (in lines) %: 19.5
  TIME ELAPSED s: 0.41
[HIPIFY] info: CONVERTED refs by type:
  error: 2
  device: 2
```

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```
  memory: 16
  event: 9
  thread: 1
  include_cuda_main_header: 1
  type: 2
  numeric_literal: 7
[HIPIFY] info: CONVERTED refs by API:
  CUDA Driver API: 1
  CUDA RT API: 39
[HIPIFY] info: CONVERTED refs by names:
  cuda.h: 1
  cudaDeviceReset: 1
  cudaError_t: 1
  cudaEventCreate: 2
  cudaEventElapsedTime: 1
  cudaEventRecord: 3
  cudaEventSynchronize: 3
  cudaEvent_t: 1
  cudaFree: 4
  cudaFreeHost: 3
  cudaGetDeviceCount: 1
  cudaGetErrorString: 1
  cudaGetLastError: 1
  cudaMalloc: 3
  cudaMemcpy: 6
  cudaMemcpyDeviceToHost: 3
  cudaMemcpyHostToDevice: 3
  cudaSuccess: 1
  cudaThreadSynchronize: 1
```

3.4.2 Print CSV statistics

```
hipify-clang intro.cu -cuda-path="C:/Program Files/NVIDIA GPU Computing Toolkit/CUDA/v12.
↪8" --print-stats-csv
```

This generates `intro.cu.csv` file with statistics:

file 'intro.cu' statistics:	
CONVERTED refs count	40
UNCONVERTED refs count	0
CONVERSION %	100.0
REPLACED bytes	604
TOTAL bytes	5794
CHANGED lines of code	34
TOTAL lines of code	174
CODE CHANGED (in bytes) %	10.4
CODE CHANGED (in lines) %	19.5
TIME ELAPSED s	0.41
CUDA ref type	Count
error	2
device	2
memory	16
event	9
thread	1
include_cuda_main_header	1
type	2
numeric_literal	7
CUDA API	Count
CUDA Driver API	1
CUDA RT API	39
CUDA ref name	Count
cuda.h	1
cudaDeviceReset	1
cudaError_t	1
cudaEventCreate	2
cudaEventElapsedTime	1
cudaEventRecord	3
cudaEventSynchronize	3
cudaEvent_t	1
cudaFree	4
cudaFreeHost	3
cudaGetDeviceCount	1
cudaGetErrorString	1
cudaGetLastError	1
cudaMalloc	3
cudaMemcpy	6
cudaMemcpyDeviceToHost	3
cudaMemcpyHostToDevice	3
cudaSuccess	1
cudaThreadSynchronize	1

CHAPTER

FOUR

USING HIPIFY-PERL

`hipify-perl` is perl-based script that heavily uses regular expressions, that is automatically generated from `hipify-clang`.

Advantages:

- Ease of use
- No checks for input source NVIDIA CUDA code for correctness required
- No dependency on third party tools, including CUDA

Disadvantages:

- Inability or difficulty in implementing the following constructs:
  - Macros expansion
  - Namespaces:
    - Redefinition of CUDA entities in user namespaces
    - Using directive
  - Templates (some cases)
  - Device or host function calls differentiation
  - Correct injection of header files
  - Parsing complicated argument lists

4.1 Example

For additional details on the following `hipify-perl` command options, see *hipify-perl command*. For more advanced translation needs use `hipify-clang` as it is more comprehensive and accurate.

Convert a simple CUDA file (`square.cu`) to HIP using `hipify-perl`:

```
hipify-perl square.cu -o square.cu.hip
```

This command translates the input file and writes the result to `square.cu.hip`.

CHAPTER

FIVE

HIPIFY-CLANG COMMAND

For a list of `hipify-clang` options, run:

```
hipify-clang --help
```

5.1 Output:

5.1.1 Usage

```
hipify-clang [options] <source0> [... <sourceN>]
```

5.1.2 Options

Options	Description
`--`	Separator between `hipify-clang` and `clang` options. Don't specify if there are no `clang` options. Not all `clang` options are supported by `hipify-clang`
`-D <macro>=<value>`	Define `<macro>` to `<value>` or 1 if `<value>` is omitted
`-I <directory>`	Add directory to include search path
`--amap`	Try to hipify as much as possible; ignores `default-preprocessor`
`--clang-resource-directo`	Defines the path to the parent folder for the `include` folder, containing `__clang_cuda_runtime_wrapper.h` and other header files used on runtime
`--csv`	Generate documentation in CSV format
`--cuda-gpu-arch=<value>`	CUDA GPU architecture (e.g. sm_35); may be specified more than once
`--cuda-kernel-execution-`	Keep CUDA kernel launch syntax (default)
`--cuda-path=<directory>`	CUDA installation path. The CUDA path is required for `hipify-clang`
`--default-preprocessor`	Enable default preprocessor behavior (synonymous with `--skip-excluded-preprocessor-conditional-blocks`)
`--doc-format=<value>`	Documentation format: `full` (default), `strict`, or `compact`. Either the `--md` or `--csv` option must also be specified to generate the documentation.
`--doc-roc=<value>`	ROC documentation generation: `skip` (default), `separate`, or `joint`. Either the `--md` or `--csv` option must also be specified to generate the documentation.
`--examine`	Combine the `--no-output` and `--print-stats` options
`--experimental`	Hipify HIP APIs that are experimentally supported, otherwise, the corresponding warnings will be emitted
`--extra-arg=<string>`	Additional argument to append to the compiler command line
`--extra-arg-before=<strin`	Additional argument to prepend to the compiler command line
`--help`	Display available options (Use `--help-hidden` to include hidden options)
`--help-list`	Display list of available options (Use `--help-list-hidden` to include hidden options)

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Table 5.1 – continued from previous page

--hip-kernel-execution-sy	Transform CUDA kernel launch syntax to a regular HIP function call (overrides --cuda-kernel-execution-syntax)
--inplace	Modify input file in-place. This will overwrite the input file with the hipify output
--md	Generate documentation in Markdown format
--miopen	Translate to miopen libraries instead of hip libraries where it is possible. Cannot be used with --roc
--no-backup	Don't create a backup file for the hipified source
--no-output	Don't write any translated output to stdout
--no-undocumented-feature	Don't rely on undocumented features in code transformation
--no-warnings-on-undocume	Suppress warnings on undocumented features in code transformation
-o <filename>	Output filename
--o-dir=<directory>	Output directory
--o-hipify-perl-dir=<dire	Output directory for hipify-perl script
--o-python-map-dir=<direc	Output directory for Python map
--o-stats=<filename>	Output filename for statistics
-p <build-path>	Used to read a compile command database as described in *Using JSON compilation database*. For example, it can be a CMake build directory in which a file named compile_commands.json exists (use -DCMAKE_EXPORT_COMPILE_COMMANDS=ON CMake option to get this output). When no build path is specified, a search for compile_commands.json will be attempted through all parent paths of the first input file . See: https://clang.llvm.org/docs/HowToSetupToolingForLLVM.html for an example of setting up Clang Tooling on a source tree
--perl	Generate hipify-perl script. See *Building hipify-perl* for more information.
--print-stats	Print translation statistics. See *Hipification statistics* for more information
--print-stats-csv	Print translation statistics in a CSV file. See *Hipification statistics* for more information
--python	Generate hipify-python command
--roc	Translate to roc libraries instead of hip libraries where possible. Cannot be used with --miopen
--save-temps	Save temporary files
--skip-excluded-preproces conditional-blocks	Enable default preprocessor behavior by skipping undefined conditional blocks. This has the same effect as --default-preprocessor
--temp-dir=<directory>	Temporary directory
-v	Show commands to run and use verbose output
--version	Display the version of this program
--versions	Display the versions of the supported 3rd-party software
<source0> ...	Specify the file paths and names of one or more source files. These paths are looked up in the compile command database. If the path of a file is absolute, it needs to point into CMake's source tree. If the path is relative, the current working directory needs to be in the CMake source tree and the file must be in a subdirectory of the current working directory. ./ prefixes in the relative files will be automatically removed, but the rest of a relative path must be a suffix of a path in the compile command database

5.1.3 Option uses:

1. Common Options:

- --help: Displays the help message
- -o <file>: Specifies the output file for the converted source
- -I <dir>: Adds the specified directory to the include search paths

- `--cuda-path=<path>`: Specifies the path to the CUDA installation. Required
- `--hip-path=<path>`: Specifies the path to the HIP installation (optional; defaults to the ROCm installation path)

2. Preprocessor and Compilation Options:

- `-D<macro>`: Defines macros for the preprocessor
- `-U<macro>`: Undefines macros
- `--save-temps`: Keeps intermediate files generated during processing

3. Diagnostics and Debugging:

- `-v`: Enables verbose output to provide detailed diagnostic information
- `--version`: Displays the version of HIPIFY-Clang
- `--show-progress`: Displays progress during the translation process
- `--print-stats | --print-stats-csv`: Prints statistics about the translation process (e.g., the number of functions or API calls converted) into either text or CSV form

4. Include and Exclude Rules:

- `--exclude-path=<path>`: Specifies paths to exclude from translation
- `--include-path=<path>`: Specifies paths to explicitly include during translation

CHAPTER

SIX

HIPIFY-PERL COMMAND

For a list of `hipify-perl` options, run:

```
hipify-perl --help
```

6.1 Output:

6.1.1 Usage

```
hipify-perl [options] <source0> [... <sourceN>]
```

6.1.2 Options

Options	Description
`-cuda-kernel-execution-sy`	Keep CUDA kernel launch syntax (default)
`-examine`	Combines `-no-output` and `-print-stats` options
`-exclude-dirs=<string>`	Exclude directories
`-exclude-files=<string>`	Exclude files
`-experimental`	HIPIFY experimentally supported APIs
`-help`	Display available options
`-hip-kernel-execution-syn`	Transform CUDA kernel launch syntax to a regular HIP function call (overrides `--cuda-kernel-execution-syntax`)
`-inplace`	Backs up the input file in `.prehip` file, and modifies the input file in-place
`-no-output`	Don't write any translated output to stdout
`-o=<string>`	Output filename
`-print-stats`	Print translation statistics as described in *Hipification statistics*
`-quiet-warnings`	Don't print warnings on unknown CUDA identifiers
`-roc`	Translate to `roc` libraries instead of `hip` libraries where possible
`-version`	The supported HIP version
`-whitelist=<string>`	Whitelist of identifiers

CHAPTER

SEVEN

SUPPORTED NVIDIA CUDA APIS

CUDA	HIP	ROC	HIP & ROC
CUDA Runtime API	*HIP API*		
CUDA Driver API	*HIP API*		
CUComplex API	*HIP API*		
CUDA Device API	*HIP Device API*		
CUDA RTC API	*HIP RTC API*		
CUBLAS API	*HIP BLAS API*	ROC BLAS API	HIP + ROC BLAS API
CUSPARSE API	*HIP SPARSE API*	ROC SPARSE API	HIP + ROC SPARSE API
CUSOLVER API	*HIP SOLVER API*		
CURAND API	*HIP RAND API*	ROC RAND API	HIP + ROC RAND API
CUFFT API	*HIP FFT API*		
CUDNN API		MIOPEN API	
CUTENSOR API	*HIP TENSOR API*		
CUB API	*HIP CUB API*		

To generate the above documentation with the information about all supported CUDA APIs in Markdown format, run `hipify-clang --md --doc-format=full` with or without specifying the output directory (`-o`), for HIP and ROC separately `--doc-roc=separate` or in the joint format (ROC & HIP) `--doc-roc=joint`.

7.1 CUDA Runtime API supported by HIP

Note: In the tables that follow the columns marked `A`, `D`, `C`, `R`, and `E` mean the following: **A** - Added; **D** - Deprecated; **C** - Changed; **R** - Removed; **E** - Experimental

7.1.1 1. Device Management

CUDA	A	D	C	R	HIP	A	D
cudaChooseDevice					hipChooseDevice	1.6.0	
cudaDeviceFlushGPUDirectRDMAWrites	11.3						
cudaDeviceGetAttribute					hipDeviceGetAttribute	1.6.0	
cudaDeviceGetByPCIBusId					hipDeviceGetByPCIBusId	1.6.0	
cudaDeviceGetCacheConfig					hipDeviceGetCacheConfig	1.6.0	
cudaDeviceGetDefaultMemPool	11.2				hipDeviceGetDefaultMemPool	5.2.0	
cudaDeviceGetLimit					hipDeviceGetLimit	1.6.0	
cudaDeviceGetMemPool	11.2				hipDeviceGetMemPool	5.2.0	
cudaDeviceGetNvSciSyncAttributes	10.2						
cudaDeviceGetP2PAttribute	8.0				hipDeviceGetP2PAttribute	3.8.0	
cudaDeviceGetPCIBusId					hipDeviceGetPCIBusId	1.6.0	
cudaDeviceGetStreamPriorityRange					hipDeviceGetStreamPriorityRange	2.0.0	
cudaDeviceGetTexture1DLinearMaxWidth	11.1				hipDeviceGetTexture1DLinearMaxWidth	6.4.0	
cudaDeviceReset					hipDeviceReset	1.6.0	
cudaDeviceSetCacheConfig					hipDeviceSetCacheConfig	1.6.0	
cudaDeviceSetLimit					hipDeviceSetLimit	5.3.0	
cudaDeviceSetMemPool	11.2				hipDeviceSetMemPool	5.2.0	
cudaDeviceSynchronize					hipDeviceSynchronize	1.6.0	
cudaGetDevice					hipGetDevice	1.6.0	
cudaGetDeviceCount					hipGetDeviceCount	1.6.0	
cudaGetDeviceFlags					hipGetDeviceFlags	3.6.0	
cudaGetDeviceProperties					hipGetDeviceProperties	1.6.0	
cudaInitDevice	12.0						
cudaIpcCloseMemHandle					hipIpcCloseMemHandle	1.6.0	
cudaIpcGetEventHandle					hipIpcGetEventHandle	1.6.0	
cudaIpcGetMemHandle					hipIpcGetMemHandle	1.6.0	
cudaIpcOpenEventHandle					hipIpcOpenEventHandle	1.6.0	
cudaIpcOpenMemHandle					hipIpcOpenMemHandle	1.6.0	
cudaSetDevice					hipSetDevice	1.6.0	
cudaSetDeviceFlags					hipSetDeviceFlags	1.6.0	
cudaSetValidDevices					hipSetValidDevices	6.2.0	

7.1.2 2. Device Management [DEPRECATED]

CUDA	A	D	C	R	HIP	A	D	C	R	E
cudaDeviceGetSharedMemConf		12.4			hipDeviceGetSharedMemConf	1.6.0				
cudaDeviceSetSharedMemConf		12.4			hipDeviceSetSharedMemConf	1.6.0				

7.1.3 3. Thread Management [DEPRECATED]

CUDA	A	D	C	R	HIP	A	D	C	R	E
cudaThreadExit		10.0			hipDeviceReset	1.6.0				
cudaThreadGetCacheConfig		10.0			hipDeviceGetCacheConfig	1.6.0				
cudaThreadGetLimit		10.0								
cudaThreadSetCacheConfig		10.0			hipDeviceSetCacheConfig	1.6.0				
cudaThreadSetLimit		10.0								
cudaThreadSynchronize		10.0			hipDeviceSynchronize	1.6.0				

7.1.4 4. Error Handling

CUDA	A	D	C	R	HIP	A	D	C	R	E
cudaGetErrorName					hipGetErrorName	1.6.0				
cudaGetErrorString					hipGetErrorString	1.6.0				
cudaGetLastError					hipGetLastError	1.6.0				
cudaPeekAtLastError					hipPeekAtLastError	1.6.0				

7.1.5 5. Stream Management

CUDA	A	D	C	R	HIP	A	D	C	R	E
cudaCtxResetPersistingL2Cac	11.0									
cudaStreamAddCallback					hipStreamAddCallback	1.6.0				
cudaStreamAttachMemAsync					hipStreamAttachMemAsync	3.7.0				
cudaStreamBeginCapture	10.0				hipStreamBeginCapture	4.3.0				
cudaStreamBeginCaptureToGra	12.3				hipStreamBeginCaptureToG	6.2.0				
cudaStreamCopyAttributes	11.0									
cudaStreamCreate					hipStreamCreate	1.6.0				
cudaStreamCreateWithFlags					hipStreamCreateWithFlags	1.6.0				
cudaStreamCreateWithPriorit					hipStreamCreateWithPrior	2.0.0				
cudaStreamDestroy					hipStreamDestroy	1.6.0				
cudaStreamEndCapture	10.0				hipStreamEndCapture	4.3.0				
cudaStreamGetAttribute	11.0									
cudaStreamGetCaptureInfo	10.1				hipStreamGetCaptureInfo	5.0.0				
cudaStreamGetCaptureInfo_v3	12.3									
cudaStreamGetDevice	12.8									
cudaStreamGetFlags					hipStreamGetFlags	1.6.0				
cudaStreamGetId	12.0									
cudaStreamGetPriority					hipStreamGetPriority	2.0.0				
cudaStreamIsCapturing	10.0				hipStreamIsCapturing	5.0.0				
cudaStreamQuery					hipStreamQuery	1.6.0				
cudaStreamSetAttribute	11.0									
cudaStreamSynchronize					hipStreamSynchronize	1.6.0				
cudaStreamUpdateCaptureDepe	11.3				hipStreamUpdateCaptureDe	5.0.0				
cudaStreamUpdateCaptureDepe	12.3									
cudaStreamWaitEvent					hipStreamWaitEvent	1.6.0				
cudaThreadExchangeStreamCap	10.1				hipThreadExchangeStreamC	5.2.0				

7.1.6 6. Event Management

CUDA	A	D	C	R	HIP	A	D	C	R	E
cudaEventCreate					hipEventCreate	1.6.0				
cudaEventCreateWithFlags					hipEventCreateWithFlags	1.6.0				
cudaEventDestroy					hipEventDestroy	1.6.0				
cudaEventElapsedTime					hipEventElapsedTime	1.6.0				
cudaEventElapsedTime_v2	12.8									
cudaEventQuery					hipEventQuery	1.6.0				
cudaEventRecord					hipEventRecord	1.6.0				
cudaEventRecordWithFlags	11.1				hipEventRecordWithFlags	6.4.0				
cudaEventSynchronize					hipEventSynchronize	1.6.0				

7.1.7 7. External Resource Interoperability

CUDA	A	D	C	R	HIP	A	D	C	R	E
cudaDestroyExternalMemory	10.0				hipDestroyExternalMemor	4.3.0				
cudaDestroyExternalSemaphore	10.0				hipDestroyExternalSemap	4.4.0				
cudaExternalMemoryGetMappedBu	10.0				hipExternalMemoryGetMap	4.3.0				
cudaExternalMemoryGetMappedMi	10.0									
cudaImportExternalMemory	10.0				hipImportExternalMemory	4.3.0				
cudaImportExternalSemaphore	10.0				hipImportExternalSemaph	4.4.0				
cudaSignalExternalSemaphoresA	10.0				hipSignalExternalSemaph	4.4.0				
cudaWaitExternalSemaphoresAsy	10.0				hipWaitExternalSemaphor	4.4.0				

7.1.8 8. Execution Control

CUDA	A	D	C	R	HIP	A	D	C	R	E
cudaFuncGetAttributes					hipFuncGetAttributes	1.9.0				
cudaFuncGetName	12.3									
cudaFuncGetParamInfo	12.4									
cudaFuncSetAttribute	9.0				hipFuncSetAttribute	3.9.0				
cudaFuncSetCacheConfig					hipFuncSetCacheConfig	1.6.0				
cudaGetParameterBuffer										
cudaGetParameterBufferV2										
cudaLaunchCooperativeKern	9.0				hipLaunchCooperativeKern	2.6.0				
cudaLaunchCooperativeKern	9.0	11.3			hipLaunchCooperativeKern	2.6.0				
cudaLaunchHostFunc	10.0				hipLaunchHostFunc	5.2.0				
cudaLaunchKernel					hipLaunchKernel	1.6.0				
cudaLaunchKernelExC	11.8				hipLaunchKernelExC	7.0.0				7.0.0
cudaSetDoubleForDevice		10.0								
cudaSetDoubleForHost		10.0								

7.1.9 9. Execution Control [DEPRECATED]

CUDA	A	D	C	R	HIP	A	D	C	R	E
cudaFuncSetSharedMemConfig		12.4			hipFuncSetSharedMemConfig	3.9.0				

7.1.10 10. Occupancy

CUDA	A	D	C	R	HIP	A	D	C	R	E
cudaOccupancyAvailableDyna	11.0									
cudaOccupancyMaxActiveBloc					hipOccupancyMaxActiveBlock	1.6.0				
cudaOccupancyMaxActiveBloc					hipOccupancyMaxActiveBlock	2.6.0				ithFlags
cudaOccupancyMaxActiveClus	11.8									
cudaOccupancyMaxPotentialB					hipOccupancyMaxPotentialBl	1.6.0				
cudaOccupancyMaxPotentialB					hipOccupancyMaxPotentialBl	5.5.0				
cudaOccupancyMaxPotentialB					hipOccupancyMaxPotentialBl	5.5.0				WithFlags
cudaOccupancyMaxPotentialB					hipOccupancyMaxPotentialBl	3.5.0				
cudaOccupancyMaxPotentialC	11.8									

7.1.11 11. Memory Management

CUDA	A	D	C	R	HIP	A	D	C	R	E
cudaArrayGetInfo					hipArrayGetInfo	5.6.0				
cudaArrayGetMemoryRequirements	11.6									
cudaArrayGetPlane	11.2									
cudaArrayGetSparseProperties	11.1									
cudaDeviceRegisterAsyncNotification	12.4									
cudaDeviceUnregisterAsyncNotification	12.4									
cudaFree					hipFree	1.5.0				
cudaFreeArray					hipFreeArray	1.6.0				
cudaFreeHost					hipHostFree	1.6.0				
cudaFreeMipmappedArray					hipFreeMipmappedArray	3.5.0				
cudaGetMipmappedArrayLevel					hipGetMipmappedArrayLevel	3.5.0				
cudaGetSymbolAddress					hipGetSymbolAddress	2.0.0				
cudaGetSymbolSize					hipGetSymbolSize	2.0.0				
cudaHostAlloc					hipHostAlloc	1.6.0				
cudaHostGetDevicePointer					hipHostGetDevicePointer	1.6.0				
cudaHostGetFlags					hipHostGetFlags	1.6.0				
cudaHostRegister					hipHostRegister	1.6.0				
cudaHostUnregister					hipHostUnregister	1.6.0				
cudaMalloc					hipMalloc	1.5.0				
cudaMalloc3D					hipMalloc3D	1.9.0				
cudaMalloc3DArray					hipMalloc3DArray	1.7.0				
cudaMallocArray					hipMallocArray	1.6.0				
cudaMallocHost					hipHostMalloc	1.6.0				
cudaMallocManaged					hipMallocManaged	2.5.0				
cudaMallocMipmappedArray					hipMallocMipmappedArray	3.5.0				

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Table 7.2 – continued from previous page

CUDA	A	D	C	R	HIP	A	D	C	R	E
cudaMallocPitch					hipMallocPitch	1.6.0				
cudaMemAdvise	8.0				hipMemAdvise	3.7.0				
cudaMemAdvise_v2	12.2									
cudaMemGetInfo					hipMemGetInfo	1.6.0				
cudaMemPrefetchAsync	8.0				hipMemPrefetchAsync	3.7.0				
cudaMemPrefetchAsync_v2	12.2									
cudaMemRangeGetAttribute	8.0				hipMemRangeGetAttribute	3.7.0				
cudaMemRangeGetAttributes	8.0				hipMemRangeGetAttributes	3.7.0				
cudaMemcpy					hipMemcpy	1.5.0				
cudaMemcpy2D					hipMemcpy2D	1.6.0				
cudaMemcpy2DArrayToArray					hipMemcpy2DArrayToArray	6.2.0				
cudaMemcpy2DAsync					hipMemcpy2DAsync	1.6.0				
cudaMemcpy2DFromArray					hipMemcpy2DFromArray	3.0.0				
cudaMemcpy2DFromArrayAsync					hipMemcpy2DFromArrayAsync	3.0.0				
cudaMemcpy2DToArray					hipMemcpy2DToArray	1.6.0				
cudaMemcpy2DToArrayAsync					hipMemcpy2DToArrayAsync	4.3.0				
cudaMemcpy3D					hipMemcpy3D	1.6.0				
cudaMemcpy3DAsync					hipMemcpy3DAsync	2.8.0				
cudaMemcpy3DBatchAsync	12.8									
cudaMemcpy3DPeer										
cudaMemcpy3DPeerAsync										
cudaMemcpyAsync					hipMemcpyAsync	1.6.0				
cudaMemcpyBatchAsync	12.8									
cudaMemcpyFromSymbol					hipMemcpyFromSymbol	1.6.0				
cudaMemcpyFromSymbolAsync					hipMemcpyFromSymbolAsync	1.6.0				
cudaMemcpyPeer					hipMemcpyPeer	1.6.0				
cudaMemcpyPeerAsync					hipMemcpyPeerAsync	1.6.0				
cudaMemcpyToSymbol					hipMemcpyToSymbol	1.6.0				
cudaMemcpyToSymbolAsync					hipMemcpyToSymbolAsync	1.6.0				
cudaMemset					hipMemset	1.6.0				
cudaMemset2D					hipMemset2D	1.7.0				
cudaMemset2DAsync					hipMemset2DAsync	1.9.0				
cudaMemset3D					hipMemset3D	1.9.0				
cudaMemset3DAsync					hipMemset3DAsync	1.9.0				
cudaMemsetAsync					hipMemsetAsync	1.6.0				
make_cudaExtent					make_hipExtent	1.7.0				
make_cudaPitchedPtr					make_hipPitchedPtr	1.7.0				
make_cudaPos					make_hipPos	1.7.0				

7.1.12 12. Memory Management [DEPRECATED]

CUDA	A	D	C	R	HIP	A	D	C	R	E
cudaMemcpyArrayToArray		10.1								
cudaMemcpyFromArray		10.1			hipMemcpyFromArray	1.9.0	3.8.0			
cudaMemcpyFromArrayAsync		10.1								
cudaMemcpyToArray		10.1			hipMemcpyToArray	1.6.0	3.8.0			
cudaMemcpyToArrayAsync		10.1								

7.1.13 13. Stream Ordered Memory Allocator

CUDA	A	D	C	R	HIP	A	D	C	R	E
cudaFreeAsync	11.2				hipFreeAsync	5.2.0				
cudaMallocAsync	11.2				hipMallocAsync	5.2.0				
cudaMallocFromPoolAsync	11.2				hipMallocFromPoolAsync	5.2.0				
cudaMemPoolCreate	11.2				hipMemPoolCreate	5.2.0				
cudaMemPoolDestroy	11.2				hipMemPoolDestroy	5.2.0				
cudaMemPoolExportPointer	11.2				hipMemPoolExportPointer	5.2.0				
cudaMemPoolExportToShareab	11.2				hipMemPoolExportToShareab	5.2.0				
cudaMemPoolGetAccess	11.2				hipMemPoolGetAccess	5.2.0				
cudaMemPoolGetAttribute	11.2				hipMemPoolGetAttribute	5.2.0				
cudaMemPoolImportFromShare	11.2				hipMemPoolImportFromShare	5.2.0				
cudaMemPoolImportPointer	11.2				hipMemPoolImportPointer	5.2.0				
cudaMemPoolSetAccess	11.2				hipMemPoolSetAccess	5.2.0				
cudaMemPoolSetAttribute	11.2				hipMemPoolSetAttribute	5.2.0				
cudaMemPoolTrimTo	11.2				hipMemPoolTrimTo	5.2.0				

7.1.14 14. Unified Addressing

CUDA	A	D	C	R	HIP	A	D	C	R	E
cudaPointerGetAttributes					hipPointerGetAttributes	1.6.0				

7.1.15 15. Peer Device Memory Access

CUDA	A	D	C	R	HIP	A	D	C	R	E
cudaDeviceCanAccessPeer					hipDeviceCanAccessPeer	1.9.0				
cudaDeviceDisablePeerAccess					hipDeviceDisablePeerAccess	1.9.0				
cudaDeviceEnablePeerAccess					hipDeviceEnablePeerAccess	1.9.0				

7.1.16 16. OpenGL Interoperability

CUDA	A	D	C	R	HIP	A	D	C	R	E
cudaGLGetDevices					hipGLGetDevices	4.5.0				
cudaGraphicsGLRegisterBuffe					hipGraphicsGLRegisterBuffe	4.5.0				
cudaGraphicsGLRegisterImage					hipGraphicsGLRegisterImage	5.1.0				
cudaWGLGetDevice										

7.1.17 17. OpenGL Interoperability [DEPRECATED]

CUDA	A	D	C	R	HIP	A	D	C	R	E
cudaGLMapBufferObject		10.0								
cudaGLMapBufferObjectAsync		10.0								
cudaGLRegisterBufferObject		10.0								
cudaGLSetBufferObjectMapFlags		10.0								
cudaGLSetGLDevice		10.0								
cudaGLUnmapBufferObject		10.0								
cudaGLUnmapBufferObjectAsync		10.0								
cudaGLUnregisterBufferObject		10.0								

7.1.18 18. Direct3D 9 Interoperability

CUDA	A	D	C	R	HIP	A	D	C	R	E
cudaD3D9GetDevice										
cudaD3D9GetDevices										
cudaD3D9GetDirect3DDevice										
cudaD3D9SetDirect3DDevice										
cudaGraphicsD3D9RegisterResource										

7.1.19 19. Direct3D 9 Interoperability [DEPRECATED]

CUDA	A	D	C	R	HIP	A	D	C	R	E
cudaD3D9MapResources		10.0								
cudaD3D9RegisterResource										
cudaD3D9ResourceGetMappedArray		10.0								
cudaD3D9ResourceGetMappedPitch		10.0								
cudaD3D9ResourceGetMappedPointer		10.0								
cudaD3D9ResourceGetMappedSize		10.0								
cudaD3D9ResourceGetSurfaceDimensions		10.0								
cudaD3D9ResourceSetMapFlags		10.0								
cudaD3D9UnmapResources		10.0								
cudaD3D9UnregisterResource		10.0								

7.1.20 20. Direct3D 10 Interoperability

CUDA	A	D	C	R	HIP	A	D	C	R	E
cudaD3D10GetDevice										
cudaD3D10GetDevices										
cudaGraphicsD3D10RegisterResource										

7.1.21 21. Direct3D 10 Interoperability [DEPRECATED]

CUDA	A	D	C	R	HIP	A	D	C	R	E
cudaD3D10GetDirect3DDevice		10.0								
cudaD3D10MapResources		10.0								
cudaD3D10RegisterResource		10.0								
cudaD3D10ResourceGetMappedArray		10.0								
cudaD3D10ResourceGetMappedPitch		10.0								
cudaD3D10ResourceGetMappedPointer		10.0								
cudaD3D10ResourceGetMappedSize		10.0								
cudaD3D10ResourceGetSurfaceDimensions		10.0								
cudaD3D10ResourceSetMapFlags		10.0								
cudaD3D10SetDirect3DDevice		10.0								
cudaD3D10UnmapResources		10.0								
cudaD3D10UnregisterResource		10.0								

7.1.22 22. Direct3D 11 Interoperability

CUDA	A	D	C	R	HIP	A	D	C	R	E
cudaD3D11GetDevice										
cudaD3D11GetDevices										
cudaGraphicsD3D11RegisterResource										

7.1.23 23. Direct3D 11 Interoperability [DEPRECATED]

CUDA	A	D	C	R	HIP	A	D	C	R	E
cudaD3D11GetDirect3DDevice		10.0								
cudaD3D11SetDirect3DDevice		10.0								

7.1.24 24. VDPAU Interoperability

CUDA	A	D	C	R	HIP	A	D	C	R	E
cudaGraphicsVDPAURegisterOutputSurface										
cudaGraphicsVDPAURegisterVideoSurface										
cudaVDPAUGetDevice										
cudaVDPAUSetVDPAUDevice										

7.1.25 25. EGL Interoperability

CUDA	A	D	C	R	HIP	A	D	C	R	E
cudaEGLStreamConsumerAcquireFrame	9.1									
cudaEGLStreamConsumerConnect	9.1									
cudaEGLStreamConsumerConnectWithFlags	9.1									
cudaEGLStreamConsumerDisconnect	9.1									
cudaEGLStreamConsumerReleaseFrame	9.1									
cudaEGLStreamProducerConnect	9.1									
cudaEGLStreamProducerDisconnect	9.1									
cudaEGLStreamProducerPresentFrame	9.1									
cudaEGLStreamProducerReturnFrame	9.1									
cudaEventCreateFromEGLSync	9.1									
cudaGraphicsEGLRegisterImage	9.1									
cudaGraphicsResourceGetMappedEglFrame	9.1									

7.1.26 26. Graphics Interoperability

CUDA	A	D	C	R	HIP	A	D	C	R	E
cudaGraphicsMapResources					hipGraphicsMapResources	4.5.0				
cudaGraphicsResourceGetMapped										
cudaGraphicsResourceGetMapped					hipGraphicsResourceGetMa	4.5.0				
cudaGraphicsResourceSetMapFla										
cudaGraphicsSubResourceGetMap					hipGraphicsSubResourceGe	5.1.0				
cudaGraphicsUnmapResources					hipGraphicsUnmapResource	4.5.0				
cudaGraphicsUnregisterResourc					hipGraphicsUnregisterRes	4.5.0				

7.1.27 27. Texture Object Management

CUDA	A	D	C	R	HIP	A	D	C	R	E
cudaCreateChannelDesc					hipCreateChannelDesc	1.6.0				
cudaCreateTextureObject					hipCreateTextureObject	1.7.0				
cudaCreateTextureObject_v2	11.8			12.0						
cudaDestroyTextureObject					hipDestroyTextureObject	1.7.0				
cudaGetChannelDesc					hipGetChannelDesc	1.7.0				
cudaGetTextureObjectResou					hipGetTextureObjectResour	1.7.0				
cudaGetTextureObjectResou					hipGetTextureObjectResour	1.7.0				
cudaGetTextureObjectTextu					hipGetTextureObjectTextur	1.7.0				
cudaGetTextureObjectTextu	11.8			12.0						

7.1.28 28. Surface Object Management

CUDA	A	D	C	R	HIP	A	D	C	R	E
cudaCreateSurfaceObject					hipCreateSurfaceObject	1.9.0				
cudaDestroySurfaceObject					hipDestroySurfaceObjec	1.9.0				
cudaGetSurfaceObjectResourceDe										

7.1.29 29. Version Management

CUDA	A	D	C	R	HIP	A	D	C	R	E
cudaDriverGetVersion					hipDriverGetVersion	1.6.0				
cudaRuntimeGetVersion					hipRuntimeGetVersion	1.6.0				

7.1.30 30. Graph Management

CUDA	A	D	C	R	HIP
cudaDeviceGetGraphMemAttribute	11.4				hipDeviceGetGraphMemAttribute
cudaDeviceGraphMemTrim	11.4				hipDeviceGraphMemTrim
cudaDeviceSetGraphMemAttribute	11.4				hipDeviceSetGraphMemAttribute
cudaGraphAddChildGraphNode	10.0				hipGraphAddChildGraphNode
cudaGraphAddDependencies	10.0				hipGraphAddDependencies
cudaGraphAddDependencies_v2	12.3				
cudaGraphAddEmptyNode	10.0				hipGraphAddEmptyNode
cudaGraphAddEventRecordNode	11.1				hipGraphAddEventRecordNode
cudaGraphAddEventWaitNode	11.1				hipGraphAddEventWaitNode
cudaGraphAddExternalSemaphoresSignalNode	11.2				hipGraphAddExternalSemaphoresSigna
cudaGraphAddExternalSemaphoresWaitNode	11.2				hipGraphAddExternalSemaphoresWait
cudaGraphAddHostNode	10.0				hipGraphAddHostNode
cudaGraphAddKernelNode	10.0				hipGraphAddKernelNode
cudaGraphAddMemAllocNode	11.4				hipGraphAddMemAllocNode
cudaGraphAddMemFreeNode	11.4				hipGraphAddMemFreeNode
cudaGraphAddMemcpyNode	10.0				hipGraphAddMemcpyNode
cudaGraphAddMemcpyNode1D	11.1				hipGraphAddMemcpyNode1D
cudaGraphAddMemcpyNodeFromSymbol	11.1				hipGraphAddMemcpyNodeFromSymbol
cudaGraphAddMemcpyNodeToSymbol	11.1				hipGraphAddMemcpyNodeToSymbol
cudaGraphAddMemsetNode	10.0				hipGraphAddMemsetNode
cudaGraphAddNode	12.2				hipGraphAddNode
cudaGraphAddNode_v2	12.3				
cudaGraphChildGraphNodeGetGraph	10.0				hipGraphChildGraphNodeGetGraph
cudaGraphClone	10.0				hipGraphClone
cudaGraphConditionalHandleCreate	12.3				
cudaGraphCreate	10.0				hipGraphCreate
cudaGraphDebugDotPrint	11.3				hipGraphDebugDotPrint
cudaGraphDestroy	10.0				hipGraphDestroy
cudaGraphDestroyNode	10.0				hipGraphDestroyNode
cudaGraphEventRecordNodeGetEvent	11.1				hipGraphEventRecordNodeGetEvent
cudaGraphEventRecordNodeSetEvent	11.1				hipGraphEventRecordNodeSetEvent
cudaGraphEventWaitNodeGetEvent	11.1				hipGraphEventWaitNodeGetEvent
cudaGraphEventWaitNodeSetEvent	11.1				hipGraphEventWaitNodeSetEvent
cudaGraphExecChildGraphNodeSetParams	11.1				hipGraphExecChildGraphNodeSetPara
cudaGraphExecDestroy	10.0				hipGraphExecDestroy
cudaGraphExecEventRecordNodeSetEvent	11.1				hipGraphExecEventRecordNodeSetEve
cudaGraphExecEventWaitNodeSetEvent	11.1				hipGraphExecEventWaitNodeSetEvent
cudaGraphExecExternalSemaphoresSignalNodeSetParams	11.2				hipGraphExecExternalSemaphoresSig
cudaGraphExecExternalSemaphoresWaitNodeSetParams	11.2				hipGraphExecExternalSemaphoresWai

Table 7.3 – continued from previous page

CUDA	A	D	C	R	HIP
cudaGraphExecGetFlags	12.0				hipGraphExecGetFlags
cudaGraphExecHostNodeSetParams	11.0				hipGraphExecHostNodeSetParams
cudaGraphExecKernelNodeSetParams	11.0				hipGraphExecKernelNodeSetParams
cudaGraphExecMemcpyNodeSetParams	11.0				hipGraphExecMemcpyNodeSetParams
cudaGraphExecMemcpyNodeSetParams1D	11.1				hipGraphExecMemcpyNodeSetParams1D
cudaGraphExecMemcpyNodeSetParamsFromSymbol	11.1				hipGraphExecMemcpyNodeSetParamsFr
cudaGraphExecMemcpyNodeSetParamsToSymbol	11.1				hipGraphExecMemcpyNodeSetParamsTo
cudaGraphExecMemsetNodeSetParams	11.0				hipGraphExecMemsetNodeSetParams
cudaGraphExecNodeSetParams	12.2				hipGraphExecNodeSetParams
cudaGraphExecUpdate	11.0				hipGraphExecUpdate
cudaGraphExternalSemaphoresSignalNodeGetParams	11.2				hipGraphExternalSemaphoresSignalN
cudaGraphExternalSemaphoresSignalNodeSetParams	11.2				hipGraphExternalSemaphoresSignalN
cudaGraphExternalSemaphoresWaitNodeGetParams	11.2				hipGraphExternalSemaphoresWaitNod
cudaGraphExternalSemaphoresWaitNodeSetParams	11.2				hipGraphExternalSemaphoresWaitNod
cudaGraphGetEdges	10.0				hipGraphGetEdges
cudaGraphGetEdges_v2	12.3				
cudaGraphGetNodes	10.0				hipGraphGetNodes
cudaGraphGetRootNodes	10.0				hipGraphGetRootNodes
cudaGraphHostNodeGetParams	10.0				hipGraphHostNodeGetParams
cudaGraphHostNodeSetParams	10.0				hipGraphHostNodeSetParams
cudaGraphInstantiate	10.0				hipGraphInstantiate
cudaGraphInstantiateWithFlags	11.4				hipGraphInstantiateWithFlags
cudaGraphInstantiateWithParams	12.0				hipGraphInstantiateWithParams
cudaGraphKernelNodeCopyAttributes	11.0				hipGraphKernelNodeCopyAttributes
cudaGraphKernelNodeGetAttribute	11.0				hipGraphKernelNodeGetAttribute
cudaGraphKernelNodeGetParams	11.0				hipGraphKernelNodeGetParams
cudaGraphKernelNodeSetAttribute	11.0				hipGraphKernelNodeSetAttribute
cudaGraphKernelNodeSetParams	11.0				hipGraphKernelNodeSetParams
cudaGraphLaunch	11.0				hipGraphLaunch
cudaGraphMemAllocNodeGetParams	11.4				hipGraphMemAllocNodeGetParams
cudaGraphMemFreeNodeGetParams	11.4				hipGraphMemFreeNodeGetParams
cudaGraphMemcpyNodeGetParams	11.0				hipGraphMemcpyNodeGetParams
cudaGraphMemcpyNodeSetParams	11.0				hipGraphMemcpyNodeSetParams
cudaGraphMemcpyNodeSetParams1D	11.1				hipGraphMemcpyNodeSetParams1D
cudaGraphMemcpyNodeSetParamsFromSymbol	11.1				hipGraphMemcpyNodeSetParamsFromSy
cudaGraphMemcpyNodeSetParamsToSymbol	11.1				hipGraphMemcpyNodeSetParamsToSymb
cudaGraphMemsetNodeGetParams	11.0				hipGraphMemsetNodeGetParams
cudaGraphMemsetNodeSetParams	11.0				hipGraphMemsetNodeSetParams
cudaGraphNodeFindInClone	11.0				hipGraphNodeFindInClone
cudaGraphNodeGetDependencies	11.0				hipGraphNodeGetDependencies
cudaGraphNodeGetDependencies_v2	12.3				
cudaGraphNodeGetDependentNodes	11.0				hipGraphNodeGetDependentNodes
cudaGraphNodeGetDependentNodes_v2	12.3				
cudaGraphNodeGetEnabled	11.6				hipGraphNodeGetEnabled
cudaGraphNodeGetType	11.0				hipGraphNodeGetType
cudaGraphNodeSetEnabled	11.6				hipGraphNodeSetEnabled
cudaGraphNodeSetParams	12.2				hipGraphNodeSetParams
cudaGraphReleaseUserObject	11.3				hipGraphReleaseUserObject
cudaGraphRemoveDependencies	11.0				hipGraphRemoveDependencies
cudaGraphRemoveDependencies_v2	12.3				

Table 7.3 – continued from previous page

CUDA	A	D	C	R	HIP
cudaGraphRetainUserObject	11.3				hipGraphRetainUserObject
cudaGraphUpload	11.1				hipGraphUpload
cudaUserObjectCreate	11.3				hipUserObjectCreate
cudaUserObjectRelease	11.3				hipUserObjectRelease
cudaUserObjectRetain	11.3				hipUserObjectRetain

7.1.31 31. Driver Entry Point Access

CUDA	A	D	C	R	HIP	A	D	C	R	E
cudaGetDriverEntryPoint	11.3		12.0		hipGetProcAddress	6.2.0				
cudaGetDriverEntryPointByVersion	12.5									

7.1.32 32. Library Management

CUDA	A	D	C	R	HIP	A	D	C	R	E
cudaKernelSetAttributeForDevice	12.8									
cudaLibraryEnumerateKernels	12.8									
cudaLibraryGetGlobal	12.8									
cudaLibraryGetKernel	12.8									
cudaLibraryGetKernelCount	12.8									
cudaLibraryGetManaged	12.8									
cudaLibraryGetUnifiedFunction	12.8									
cudaLibraryLoadData	12.8									
cudaLibraryLoadFromFile	12.8									
cudaLibraryUnload	12.8									

7.1.33 33. C++ API Routines

CUDA	A	D	C	R	HIP	A	D	C	R	E
cudaGetKernel	12.1									

7.1.34 34. Interactions with the CUDA Driver API

CUDA	A	D	C	R	HIP	A	D	C	R	E
cudaGetFuncBySymbol	11.0				hipGetFuncBySymbol	6.2.0				

7.1.35 35. Profiler Control

CUDA	A	D	C	R	HIP	A	D	C	R	E
cudaProfilerStart					hipProfilerStart	1.6.0	3.0.0			
cudaProfilerStop					hipProfilerStop	1.6.0	3.0.0			

7.1.36 36. Data types used by CUDA Runtime

CUDA	A	D	C	R	HIP
CUDART_2_OVER_PI					HIP_2_OVER_PI
CUDART_2_OVER_PI_F					HIP_2_OVER_PI_F
CUDART_3PIO4					HIP_3PIO4
CUDART_3PIO4_F					HIP_3PIO4_F
CUDART_DBL2INT_CVT					HIP_DBL2INT_CVT
CUDART_INF					HIP_INF
CUDART_INF_F					HIP_INF_F
CUDART_L2E					HIP_L2E
CUDART_L2E_F					HIP_L2E_F
CUDART_L2E_HI					HIP_L2E_HI
CUDART_L2E_LO					HIP_L2E_LO
CUDART_L2T					HIP_L2T
CUDART_L2T_F					HIP_L2T_F
CUDART_LG2					HIP_LG2
CUDART_LG2_F					HIP_LG2_F
CUDART_LG2_HI					HIP_LG2_HI
CUDART_LG2_LO					HIP_LG2_LO
CUDART_LG2_X_1024					HIP_LG2_X_1024
CUDART_LG2_X_1075					HIP_LG2_X_1075
CUDART_LGE					HIP_LGE
CUDART_LGE_F					HIP_LGE_F
CUDART_LGE_HI					HIP_LGE_HI
CUDART_LGE_LO					HIP_LGE_LO
CUDART_LN2					HIP_LN2
CUDART_LN2_F					HIP_LN2_F
CUDART_LN2_HI					HIP_LN2_HI
CUDART_LN2_LO					HIP_LN2_LO
CUDART_LN2_X_1024					HIP_LN2_X_1024
CUDART_LN2_X_1025					HIP_LN2_X_1025
CUDART_LN2_X_1075					HIP_LN2_X_1075
CUDART_LNPI					HIP_LNPI

Table 7.4 – continued from previous page

CUDA	A	D	C	R	HIP
CUDART_LNPI_F					HIP_LNPI_F
CUDART_LNT					HIP_LNT
CUDART_LNT_F					HIP_LNT_F
CUDART_LNT_HI					HIP_LNT_HI
CUDART_LNT_LO					HIP_LNT_LO
CUDART_MAX_NORMAL_F					HIP_MAX_NORMAL_F
CUDART_MIN_DENORM					HIP_MIN_DENORM
CUDART_MIN_DENORM_F					HIP_MIN_DENORM_F
CUDART_NAN					HIP_NAN
CUDART_NAN_F					HIP_NAN_F
CUDART_NEG_ZERO					HIP_NEG_ZERO
CUDART_NEG_ZERO_F					HIP_NEG_ZERO_F
CUDART_NORM_HUGE_F					HIP_NORM_HUGE_F
CUDART_ONE					HIP_ONE
CUDART_ONE_F					HIP_ONE_F
CUDART_PI					HIP_PI
CUDART_PIO2					HIP_PIO2
CUDART_PIO2_F					HIP_PIO2_F
CUDART_PIO2_HI					HIP_PIO2_HI
CUDART_PIO2_LO					HIP_PIO2_LO
CUDART_PIO4					HIP_PIO4
CUDART_PIO4_F					HIP_PIO4_F
CUDART_PIO4_HI					HIP_PIO4_HI
CUDART_PIO4_LO					HIP_PIO4_LO
CUDART_PI_F					HIP_PI_F
CUDART_PI_HI					HIP_PI_HI
CUDART_PI_LO					HIP_PI_LO
CUDART_REMQUO_BITS_F					HIP_REMQUO_BITS_F
CUDART_REMQUO_MASK_F					HIP_REMQUO_MASK_F
CUDART_SQRT_2OPI					HIP_SQRT_2OPI
CUDART_SQRT_2PI					HIP_SQRT_2PI
CUDART_SQRT_2PI_HI					HIP_SQRT_2PI_HI
CUDART_SQRT_2PI_LO					HIP_SQRT_2PI_LO
CUDART_SQRT_2_OVER_PI_F					HIP_SQRT_2_OVER_PI_F
CUDART_SQRT_HALF					HIP_SQRT_HALF
CUDART_SQRT_HALF_F					HIP_SQRT_HALF_F
CUDART_SQRT_HALF_HI					HIP_SQRT_HALF_HI
CUDART_SQRT_HALF_HI_F					HIP_SQRT_HALF_HI_F
CUDART_SQRT_HALF_LO					HIP_SQRT_HALF_LO
CUDART_SQRT_HALF_LO_F					HIP_SQRT_HALF_LO_F
CUDART_SQRT_PIO2					HIP_SQRT_PIO2
CUDART_SQRT_PIO2_HI					HIP_SQRT_PIO2_HI
CUDART_SQRT_PIO2_LO					HIP_SQRT_PIO2_LO
CUDART_SQRT_TWO					HIP_SQRT_TWO
CUDART_SQRT_TWO_F					HIP_SQRT_TWO_F
CUDART_THIRD					HIP_THIRD
CUDART_THIRD_F					HIP_THIRD_F
CUDART_TRIG_PLOSS					HIP_TRIG_PLOSS
CUDART_TRIG_PLOSS_F					HIP_TRIG_PLOSS_F
CUDART_TWOTHIRD					HIP_TWOTHIRD

Table 7.4 – continued from previous page

CUDA	A	D	C	R	HIP
CUDART_TWO_TO_126_F					HIP_TWO_TO_126_F
CUDART_TWO_TO_23					HIP_TWO_TO_23
CUDART_TWO_TO_23_F					HIP_TWO_TO_23_F
CUDART_TWO_TO_24_F					HIP_TWO_TO_24_F
CUDART_TWO_TO_31_F					HIP_TWO_TO_31_F
CUDART_TWO_TO_32_F					HIP_TWO_TO_32_F
CUDART_TWO_TO_52					HIP_TWO_TO_52
CUDART_TWO_TO_53					HIP_TWO_TO_53
CUDART_TWO_TO_54					HIP_TWO_TO_54
CUDART_TWO_TO_M1022					HIP_TWO_TO_M1022
CUDART_TWO_TO_M126_F					HIP_TWO_TO_M126_F
CUDART_TWO_TO_M54					HIP_TWO_TO_M54
CUDART_ZERO					HIP_ZERO
CUDART_ZERO_F					HIP_ZERO_F
CUDA_EGL_MAX_PLANES	9.1				
CUDA_IPC_HANDLE_SIZE					HIP_IPC_HANDLE_SIZE
CUeglStreamConnection_st	9.1				
CUevent_st					ihipEvent_t
CUexternalMemory_st	10.0				
CUexternalSemaphore_st	10.0				
CUgraphExec_st	10.0				hipGraphExec
CUgraphNode_st	10.0				hipGraphNode
CUgraph_st	10.0				ihipGraph
CUkern_st	12.1				
CUstream_st					ihipStream_t
CUuuid_st					hipUUID_t
cudaAccessPolicyWindow	11.0				hipAccessPolicyWindow
cudaAccessProperty	11.0				hipAccessProperty
cudaAccessPropertyNormal	11.0				hipAccessPropertyNormal
cudaAccessPropertyPersisting	11.0				hipAccessPropertyPersis
cudaAccessPropertyStreaming	11.0				hipAccessPropertyStream
cudaAddressModeBorder					hipAddressModeBorder
cudaAddressModeClamp					hipAddressModeClamp
cudaAddressModeMirror					hipAddressModeMirror
cudaAddressModeWrap					hipAddressModeWrap
cudaArray					hipArray
cudaArrayColorAttachment	10.0				
cudaArrayCubemap					hipArrayCubemap
cudaArrayDefault					hipArrayDefault
cudaArrayDeferredMapping	11.6				
cudaArrayLayered					hipArrayLayered
cudaArrayMemoryRequirements	11.6				
cudaArraySparse	11.1				
cudaArraySparseProperties	11.1				
cudaArraySparsePropertiesSingleMipTail	11.1				
cudaArraySurfaceLoadStore					hipArraySurfaceLoadStor
cudaArrayTextureGather					hipArrayTextureGather
cudaArray_const_t					hipArray_const_t
cudaArray_t					hipArray_t
cudaAsyncCallback	12.4				

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CUDA	A	D	C	R	HIP
cudaAsyncCallbackEntry	12.4				
cudaAsyncCallbackHandle_t	12.4				
cudaAsyncNotificationInfo	12.4				
cudaAsyncNotificationInfo_t	12.4				
cudaBoundaryModeClamp					hipBoundaryModeClamp
cudaBoundaryModeTrap					hipBoundaryModeTrap
cudaBoundaryModeZero					hipBoundaryModeZero
cudaCGScope	9.0				
cudaCGScopeGrid	9.0				
cudaCGScopeInvalid	9.0				
cudaCGScopeMultiGrid	9.0				
cudaCSV				12.0	
cudaChannelFormatDesc					hipChannelFormatDesc
cudaChannelFormatKind					hipChannelFormatKind
cudaChannelFormatKindFloat					hipChannelFormatKindFlo
cudaChannelFormatKindNV12	11.2				
cudaChannelFormatKindNone					hipChannelFormatKindNon
cudaChannelFormatKindSigned					hipChannelFormatKindSig
cudaChannelFormatKindSignedBlockCompressed4	11.5				
cudaChannelFormatKindSignedBlockCompressed5	11.5				
cudaChannelFormatKindSignedBlockCompressed6H	11.5				
cudaChannelFormatKindSignedNormalized16X1	11.5				
cudaChannelFormatKindSignedNormalized16X2	11.5				
cudaChannelFormatKindSignedNormalized16X4	11.5				
cudaChannelFormatKindSignedNormalized8X1	11.5				
cudaChannelFormatKindSignedNormalized8X2	11.5				
cudaChannelFormatKindSignedNormalized8X4	11.5				
cudaChannelFormatKindUnsigned					hipChannelFormatKindUns
cudaChannelFormatKindUnsignedBlockCompressed1	11.5				
cudaChannelFormatKindUnsignedBlockCompressed1SRGB	11.5				
cudaChannelFormatKindUnsignedBlockCompressed2	11.5				
cudaChannelFormatKindUnsignedBlockCompressed2SRGB	11.5				
cudaChannelFormatKindUnsignedBlockCompressed3	11.5				
cudaChannelFormatKindUnsignedBlockCompressed3SRGB	11.5				
cudaChannelFormatKindUnsignedBlockCompressed4	11.5				
cudaChannelFormatKindUnsignedBlockCompressed5	11.5				
cudaChannelFormatKindUnsignedBlockCompressed6H	11.5				
cudaChannelFormatKindUnsignedBlockCompressed7	11.5				
cudaChannelFormatKindUnsignedBlockCompressed7SRGB	11.5				
cudaChannelFormatKindUnsignedNormalized1010102	12.8				
cudaChannelFormatKindUnsignedNormalized16X1	11.5				
cudaChannelFormatKindUnsignedNormalized16X2	11.5				
cudaChannelFormatKindUnsignedNormalized16X4	11.5				
cudaChannelFormatKindUnsignedNormalized8X1	11.5				
cudaChannelFormatKindUnsignedNormalized8X2	11.5				
cudaChannelFormatKindUnsignedNormalized8X4	11.5				
cudaChildGraphNodeParams	12.2				hipChildGraphNodeParams
cudaClusterSchedulingPolicy	11.8				
cudaClusterSchedulingPolicyDefault	11.8				
cudaClusterSchedulingPolicyLoadBalancing	11.8				

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CUDA	A	D	C	R	HIP
cudaClusterSchedulingPolicySpread	11.8				
cudaComputeMode					hipComputeMode
cudaComputeModeDefault					hipComputeModeDefault
cudaComputeModeExclusive					hipComputeModeExclusive
cudaComputeModeExclusiveProcess					hipComputeModeExclusiveP
cudaComputeModeProhibited					hipComputeModeProhibited
cudaConditionalNodeParams	12.3				
cudaCooperativeLaunchMultiDeviceNoPostSync	9.0				hipCooperativeLaunchMul
cudaCooperativeLaunchMultiDeviceNoPreSync	9.0				hipCooperativeLaunchMul
cudaCpuDeviceId	8.0				hipCpuDeviceId
cudaD3D10DeviceList					
cudaD3D10DeviceListAll					
cudaD3D10DeviceListCurrentFrame					
cudaD3D10DeviceListNextFrame					
cudaD3D10MapFlags					
cudaD3D10MapFlagsNone					
cudaD3D10MapFlagsReadOnly					
cudaD3D10MapFlagsWriteDiscard					
cudaD3D10RegisterFlags					
cudaD3D10RegisterFlagsArray					
cudaD3D10RegisterFlagsNone					
cudaD3D11DeviceList					
cudaD3D11DeviceListAll					
cudaD3D11DeviceListCurrentFrame					
cudaD3D11DeviceListNextFrame					
cudaD3D9DeviceList					
cudaD3D9DeviceListAll					
cudaD3D9DeviceListCurrentFrame					
cudaD3D9DeviceListNextFrame					
cudaD3D9MapFlags					
cudaD3D9MapFlagsNone					
cudaD3D9MapFlagsReadOnly					
cudaD3D9MapFlagsWriteDiscard					
cudaD3D9RegisterFlags					
cudaD3D9RegisterFlagsArray					
cudaD3D9RegisterFlagsNone					
cudaDevAttrAsyncEngineCount					hipDeviceAttributeAsyncE
cudaDevAttrCanFlushRemoteWrites	9.2				
cudaDevAttrCanMapHostMemory					hipDeviceAttributeCanMap
cudaDevAttrCanUseHostPointerForRegisteredMem	8.0				hipDeviceAttributeCanUse
cudaDevAttrClockRate					hipDeviceAttributeClockR
cudaDevAttrClusterLaunch	11.8				
cudaDevAttrComputeCapabilityMajor					hipDeviceAttributeComput
cudaDevAttrComputeCapabilityMinor					hipDeviceAttributeComput
cudaDevAttrComputeMode					hipDeviceAttributeComput
cudaDevAttrComputePreemptionSupported	8.0				hipDeviceAttributeComput
cudaDevAttrConcurrentKernels					hipDeviceAttributeConcur
cudaDevAttrConcurrentManagedAccess	8.0				hipDeviceAttributeConcur
cudaDevAttrCooperativeLaunch	9.0				hipDeviceAttributeCooper
cudaDevAttrCooperativeMultiDeviceLaunch	9.0				hipDeviceAttributeCooper

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CUDA	A	D	C	R	HIP
cudaDevAttrD3D12CigSupported	12.5				
cudaDevAttrDeferredMappingCudaArraySupported	11.6				
cudaDevAttrDirectManagedMemAccessFromHost	9.2				hipDeviceAttributeDirec
cudaDevAttrEccEnabled					hipDeviceAttributeEccEna
cudaDevAttrGPUDirectRDMAFlushWritesOptions	11.3				
cudaDevAttrGPUDirectRDMASupported	11.3				
cudaDevAttrGPUDirectRDMAWritesOrdering	11.3				
cudaDevAttrGlobalL1CacheSupported					hipDeviceAttributeGlobal
cudaDevAttrGlobalMemoryBusWidth					hipDeviceAttributeMemory
cudaDevAttrGpuOverlap					hipDeviceAttributeAsync
cudaDevAttrGpuPciDeviceId	12.8				
cudaDevAttrGpuPciSubsystemId	12.8				
cudaDevAttrHostNativeAtomicSupported	8.0				hipDeviceAttributeHostNa
cudaDevAttrHostNumaId	12.2				
cudaDevAttrHostNumaMemoryPoolsSupported	12.9				
cudaDevAttrHostNumaMultinodeIpcSupported	12.8				
cudaDevAttrHostRegisterReadOnlySupported	11.1				
cudaDevAttrHostRegisterSupported	9.2				hipDeviceAttributeHostR
cudaDevAttrIntegrated					hipDeviceAttributeIntegr
cudaDevAttrIpcEventSupport	12.0				
cudaDevAttrIsMultiGpuBoard					hipDeviceAttributeIsMul
cudaDevAttrKernelExecTimeout					hipDeviceAttributeKernel
cudaDevAttrL2CacheSize					hipDeviceAttributeL2Cach
cudaDevAttrLocalL1CacheSupported					hipDeviceAttributeLocalL
cudaDevAttrManagedMemory					hipDeviceAttributeManage
cudaDevAttrMax	11.4				
cudaDevAttrMaxAccessPolicyWindowSize	11.3				
cudaDevAttrMaxBlockDimX					hipDeviceAttributeMaxBlo
cudaDevAttrMaxBlockDimY					hipDeviceAttributeMaxBlo
cudaDevAttrMaxBlockDimZ					hipDeviceAttributeMaxBlo
cudaDevAttrMaxBlocksPerMultiprocessor	11.0				hipDeviceAttributeMaxBlo
cudaDevAttrMaxGridDimX					hipDeviceAttributeMaxGri
cudaDevAttrMaxGridDimY					hipDeviceAttributeMaxGri
cudaDevAttrMaxGridDimZ					hipDeviceAttributeMaxGri
cudaDevAttrMaxPersistingL2CacheSize	11.3				
cudaDevAttrMaxPitch					hipDeviceAttributeMaxPit
cudaDevAttrMaxRegistersPerBlock					hipDeviceAttributeMaxReg
cudaDevAttrMaxRegistersPerMultiprocessor					hipDeviceAttributeMaxReg
cudaDevAttrMaxSharedMemoryPerBlock					hipDeviceAttributeMaxSha
cudaDevAttrMaxSharedMemoryPerBlockOptin	9.0				hipDeviceAttributeShared
cudaDevAttrMaxSharedMemoryPerMultiprocessor					hipDeviceAttributeMaxSha
cudaDevAttrMaxSurface1DLayeredLayers					
cudaDevAttrMaxSurface1DLayeredWidth					hipDeviceAttributeMaxSur
cudaDevAttrMaxSurface1DWidth					hipDeviceAttributeMaxSur
cudaDevAttrMaxSurface2DHeight					hipDeviceAttributeMaxSur
cudaDevAttrMaxSurface2DLayeredHeight					hipDeviceAttributeMaxSur
cudaDevAttrMaxSurface2DLayeredLayers					
cudaDevAttrMaxSurface2DLayeredWidth					hipDeviceAttributeMaxSur
cudaDevAttrMaxSurface2DWidth					hipDeviceAttributeMaxSur
cudaDevAttrMaxSurface3DDepth					hipDeviceAttributeMaxSur

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CUDA	A	D	C	R	HIP
cudaDevAttrMaxSurface3DHeight					hipDeviceAttributeMaxSu
cudaDevAttrMaxSurface3DWidth					hipDeviceAttributeMaxSu
cudaDevAttrMaxSurfaceCubemapLayeredLayers					
cudaDevAttrMaxSurfaceCubemapLayeredWidth					hipDeviceAttributeMaxSu
cudaDevAttrMaxSurfaceCubemapWidth					hipDeviceAttributeMaxSu
cudaDevAttrMaxTexture1DLayeredLayers					
cudaDevAttrMaxTexture1DLayeredWidth					hipDeviceAttributeMaxTe
cudaDevAttrMaxTexture1DLinearWidth					hipDeviceAttributeMaxTe
cudaDevAttrMaxTexture1DMipmappedWidth					hipDeviceAttributeMaxTe
cudaDevAttrMaxTexture1DWidth					hipDeviceAttributeMaxTe
cudaDevAttrMaxTexture2DGatherHeight					hipDeviceAttributeMaxTe
cudaDevAttrMaxTexture2DGatherWidth					hipDeviceAttributeMaxTe
cudaDevAttrMaxTexture2DHeight					hipDeviceAttributeMaxTe
cudaDevAttrMaxTexture2DLayeredHeight					hipDeviceAttributeMaxTe
cudaDevAttrMaxTexture2DLayeredLayers					
cudaDevAttrMaxTexture2DLayeredWidth					hipDeviceAttributeMaxTe
cudaDevAttrMaxTexture2DLinearHeight					hipDeviceAttributeMaxTe
cudaDevAttrMaxTexture2DLinearPitch					hipDeviceAttributeMaxTe
cudaDevAttrMaxTexture2DLinearWidth					hipDeviceAttributeMaxTe
cudaDevAttrMaxTexture2DMipmappedHeight					hipDeviceAttributeMaxTe
cudaDevAttrMaxTexture2DMipmappedWidth					hipDeviceAttributeMaxTe
cudaDevAttrMaxTexture2DWidth					hipDeviceAttributeMaxTe
cudaDevAttrMaxTexture3DDepth					hipDeviceAttributeMaxTe
cudaDevAttrMaxTexture3DDepthAlt					hipDeviceAttributeMaxTe
cudaDevAttrMaxTexture3DHeight					hipDeviceAttributeMaxTe
cudaDevAttrMaxTexture3DHeightAlt					hipDeviceAttributeMaxTe
cudaDevAttrMaxTexture3DWidth					hipDeviceAttributeMaxTe
cudaDevAttrMaxTexture3DWidthAlt					hipDeviceAttributeMaxTe
cudaDevAttrMaxTextureCubemapLayeredLayers					
cudaDevAttrMaxTextureCubemapLayeredWidth					hipDeviceAttributeMaxTe
cudaDevAttrMaxTextureCubemapWidth					hipDeviceAttributeMaxTe
cudaDevAttrMaxThreadsPerBlock					hipDeviceAttributeMaxTh
cudaDevAttrMaxThreadsPerMultiProcessor					hipDeviceAttributeMaxTh
cudaDevAttrMaxTimelineSemaphoreInteropSupported	11.2	11.5			
cudaDevAttrMemSyncDomainCount	12.0				
cudaDevAttrMemoryClockRate					hipDeviceAttributeMemory
cudaDevAttrMemoryPoolSupportedHandleTypes	11.3				
cudaDevAttrMemoryPoolsSupported	11.2				hipDeviceAttributeMemory
cudaDevAttrMpsEnabled	12.3				
cudaDevAttrMultiGpuBoardGroupID					hipDeviceAttributeMulti
cudaDevAttrMultiProcessorCount					hipDeviceAttributeMulti
cudaDevAttrNumaConfig	12.2				
cudaDevAttrNumaId	12.2				
cudaDevAttrPageableMemoryAccess	8.0				hipDeviceAttributePageab
cudaDevAttrPageableMemoryAccessUsesHostPageTables	9.2				hipDeviceAttributePageab
cudaDevAttrPciBusId					hipDeviceAttributePciBus
cudaDevAttrPciDeviceId					hipDeviceAttributePciDev
cudaDevAttrPciDomainId					hipDeviceAttributePciDom
cudaDevAttrReserved122	12.0				
cudaDevAttrReserved123	12.0				

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CUDA	A	D	C	R	HIP
cudaDevAttrReserved124	12.0				
cudaDevAttrReserved127	12.1				
cudaDevAttrReserved128	12.1				
cudaDevAttrReserved129	12.1				
cudaDevAttrReserved132	12.1				
cudaDevAttrReserved141	12.9				
cudaDevAttrReserved92	9.0				
cudaDevAttrReserved93	9.0				
cudaDevAttrReserved94	9.0				hipDeviceAttributeCanUs
cudaDevAttrReservedSharedMemoryPerBlock	11.0				
cudaDevAttrSingleToDoublePrecisionPerfRatio	8.0				hipDeviceAttributeSingl
cudaDevAttrSparseCudaArraySupported	11.1				
cudaDevAttrStreamPrioritiesSupported					hipDeviceAttributeStrea
cudaDevAttrSurfaceAlignment					hipDeviceAttributeSurfa
cudaDevAttrTccDriver					hipDeviceAttributeTccDr
cudaDevAttrTextureAlignment					hipDeviceAttributeTextu
cudaDevAttrTexturePitchAlignment					hipDeviceAttributeTextu
cudaDevAttrTimelineSemaphoreInteropSupported	11.5				
cudaDevAttrTotalConstantMemory					hipDeviceAttributeTotal
cudaDevAttrUnifiedAddressing					hipDeviceAttributeUnifi
cudaDevAttrVulkanCigSupported	12.9				
cudaDevAttrWarpSize					hipDeviceAttributeWarpS
cudaDevP2PAttrAccessSupported	8.0				hipDevP2PAttrAccessSupp
cudaDevP2PAttrCudaArrayAccessSupported	9.2				hipDevP2PAttrHipArrayAc
cudaDevP2PAttrNativeAtomicSupported	8.0				hipDevP2PAttrNativeAtom
cudaDevP2PAttrPerformanceRank	8.0				hipDevP2PAttrPerformanc
cudaDeviceAttr					hipDeviceAttribute_t
cudaDeviceBlockingSync					hipDeviceScheduleBlocki
cudaDeviceLmemResizeToMax					hipDeviceLmemResizeToMa
cudaDeviceMapHost					hipDeviceMapHost
cudaDeviceMask					
cudaDeviceNumaConfig	12.2				
cudaDeviceNumaConfigNone	12.2				
cudaDeviceNumaConfigNumaNode	12.2				
cudaDeviceP2PAttr	8.0				hipDeviceP2PAttr
cudaDeviceProp					hipDeviceProp_t
cudaDevicePropDontCare				12.0	
cudaDeviceScheduleAuto					hipDeviceScheduleAuto
cudaDeviceScheduleBlockingSync					hipDeviceScheduleBlocki
cudaDeviceScheduleMask					hipDeviceScheduleMask
cudaDeviceScheduleSpin					hipDeviceScheduleSpin
cudaDeviceScheduleYield					hipDeviceScheduleYield
cudaDeviceSyncMemops	12.1				
cudaDriverEntryPointQueryResult	12.0				hipDriverProcAddressQue
cudaDriverEntryPointSuccess	12.0				HIP_GET_PROC_ADDRESS_SU
cudaDriverEntryPointSymbolNotFound	12.0				HIP_GET_PROC_ADDRESS_SY
cudaDriverEntryPointVersionNotSufficent	12.0				HIP_GET_PROC_ADDRESS_VE
cudaEglColorFormat	9.1				
cudaEglColorFormatA	9.1				
cudaEglColorFormatABGR	9.1				

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CUDA	A	D	C	R	HIP
cudaEglColorFormatARGB	9.1				
cudaEglColorFormatAYUV	9.1				
cudaEglColorFormatAYUV_ER	9.1				
cudaEglColorFormatBGR	9.1				
cudaEglColorFormatBGRA	9.1				
cudaEglColorFormatBayer10BGGR	9.1				
cudaEglColorFormatBayer10CCCC	11.1				
cudaEglColorFormatBayer10GBRG	9.1				
cudaEglColorFormatBayer10GRBG	9.1				
cudaEglColorFormatBayer10RGGB	9.1				
cudaEglColorFormatBayer12BCCR	11.1				
cudaEglColorFormatBayer12BGGR	9.1				
cudaEglColorFormatBayer12CBRC	11.1				
cudaEglColorFormatBayer12CCCC	11.1				
cudaEglColorFormatBayer12CRBC	11.1				
cudaEglColorFormatBayer12GBRG	9.1				
cudaEglColorFormatBayer12GRBG	9.1				
cudaEglColorFormatBayer12RCCB	11.1				
cudaEglColorFormatBayer12RGGB	9.1				
cudaEglColorFormatBayer14BGGR	9.1				
cudaEglColorFormatBayer14GBRG	9.1				
cudaEglColorFormatBayer14GRBG	9.1				
cudaEglColorFormatBayer14RGGB	9.1				
cudaEglColorFormatBayer20BGGR	9.1				
cudaEglColorFormatBayer20GBRG	9.1				
cudaEglColorFormatBayer20GRBG	9.1				
cudaEglColorFormatBayer20RGGB	9.1				
cudaEglColorFormatBayerBCCR	11.1				
cudaEglColorFormatBayerBGGR	9.1				
cudaEglColorFormatBayerCBRC	11.1				
cudaEglColorFormatBayerCRBC	11.1				
cudaEglColorFormatBayerGBRG	9.1				
cudaEglColorFormatBayerGRBG	9.1				
cudaEglColorFormatBayerIspBGGR	9.2				
cudaEglColorFormatBayerIspGBRG	9.2				
cudaEglColorFormatBayerIspGRBG	9.2				
cudaEglColorFormatBayerIspRGGB	9.2				
cudaEglColorFormatBayerRCCB	11.1				
cudaEglColorFormatBayerRGGB	9.1				
cudaEglColorFormatL	9.1				
cudaEglColorFormatR	9.1				
cudaEglColorFormatRG	9.1				
cudaEglColorFormatRGB	9.1				
cudaEglColorFormatRGBA	9.1				
cudaEglColorFormatUYVY2020	12.8				
cudaEglColorFormatUYVY422	9.1				
cudaEglColorFormatUYVY709	12.8				
cudaEglColorFormatUYVY709_ER	12.8				
cudaEglColorFormatUYVY_ER	9.1				
cudaEglColorFormatVYUY	11.4				

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CUDA	A	D	C	R	HIP
cudaEglColorFormatVYUY_ER	9.1				
cudaEglColorFormatY	11.2				
cudaEglColorFormatY10V10U10_420SemiPlanar	9.1				
cudaEglColorFormatY10V10U10_420SemiPlanar_2020	11.4				
cudaEglColorFormatY10V10U10_420SemiPlanar_709	11.4				
cudaEglColorFormatY10V10U10_420SemiPlanar_709_ER	11.4				
cudaEglColorFormatY10V10U10_420SemiPlanar_ER	11.4				
cudaEglColorFormatY10V10U10_422SemiPlanar	11.4				
cudaEglColorFormatY10V10U10_422SemiPlanar_2020	11.4				
cudaEglColorFormatY10V10U10_422SemiPlanar_709	11.4				
cudaEglColorFormatY10V10U10_444SemiPlanar	9.1				
cudaEglColorFormatY10V10U10_444SemiPlanar_709_ER	11.4				
cudaEglColorFormatY10V10U10_444SemiPlanar_ER	11.4				
cudaEglColorFormatY10_709_ER	11.4				
cudaEglColorFormatY10_ER	11.4				
cudaEglColorFormatY12V12U12_420SemiPlanar	9.1				
cudaEglColorFormatY12V12U12_420SemiPlanar_709_ER	11.4				
cudaEglColorFormatY12V12U12_420SemiPlanar_ER	11.4				
cudaEglColorFormatY12V12U12_444SemiPlanar	9.1				
cudaEglColorFormatY12V12U12_444SemiPlanar_709_ER	11.4				
cudaEglColorFormatY12V12U12_444SemiPlanar_ER	11.4				
cudaEglColorFormatY12_709_ER	11.4				
cudaEglColorFormatY12_ER	11.4				
cudaEglColorFormatYUV420Planar	9.1				
cudaEglColorFormatYUV420Planar_2020	11.4				
cudaEglColorFormatYUV420Planar_709	11.4				
cudaEglColorFormatYUV420Planar_ER	9.1				
cudaEglColorFormatYUV420SemiPlanar	9.1				
cudaEglColorFormatYUV420SemiPlanar_2020	11.4				
cudaEglColorFormatYUV420SemiPlanar_709	11.4				
cudaEglColorFormatYUV420SemiPlanar_ER	9.1				
cudaEglColorFormatYUV422Planar	9.1				
cudaEglColorFormatYUV422Planar_ER	9.1				
cudaEglColorFormatYUV422SemiPlanar	9.1				
cudaEglColorFormatYUV422SemiPlanar_ER	9.1				
cudaEglColorFormatYUV444Planar	9.1				
cudaEglColorFormatYUV444Planar_ER	9.1				
cudaEglColorFormatYUV444SemiPlanar	9.1				
cudaEglColorFormatYUV444SemiPlanar_ER	9.1				
cudaEglColorFormatYUVA	11.4				
cudaEglColorFormatYUVA_ER	9.1				
cudaEglColorFormatYUV_ER	9.1				
cudaEglColorFormatYUYV422	9.1				
cudaEglColorFormatYUYV_ER	9.1				
cudaEglColorFormatYVU420Planar	9.1				
cudaEglColorFormatYVU420Planar_2020	11.4				
cudaEglColorFormatYVU420Planar_709	11.4				
cudaEglColorFormatYVU420Planar_ER	9.1				
cudaEglColorFormatYVU420SemiPlanar	9.1				
cudaEglColorFormatYVU420SemiPlanar_2020	11.4				

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CUDA	A	D	C	R	HIP
cudaEglColorFormatYVU420SemiPlanar_709	11.4				
cudaEglColorFormatYVU420SemiPlanar_ER	9.1				
cudaEglColorFormatYVU422Planar	9.1				
cudaEglColorFormatYVU422Planar_ER	9.1				
cudaEglColorFormatYVU422SemiPlanar	9.1				
cudaEglColorFormatYVU422SemiPlanar_ER	9.1				
cudaEglColorFormatYVU444Planar	9.1				
cudaEglColorFormatYVU444Planar_ER	9.1				
cudaEglColorFormatYVU444SemiPlanar	9.1				
cudaEglColorFormatYVU444SemiPlanar_ER					
cudaEglColorFormatYVYU	11.4				
cudaEglColorFormatYVYU_ER	9.1				
cudaEglColorFormatY_709_ER	11.4				
cudaEglColorFormatY_ER	11.4				
cudaEglFrame	9.1				
cudaEglFrameType	9.1				
cudaEglFrameTypeArray	9.1				
cudaEglFrameTypePitch	9.1				
cudaEglFrame_st	9.1				
cudaEglPlaneDesc	9.1				
cudaEglPlaneDesc_st	9.1				
cudaEglResourceLocationFlags	9.1				
cudaEglResourceLocationSysmem	9.1				
cudaEglResourceLocationVidmem	9.1				
cudaEglStreamConnection	9.1				
cudaEnableDefault	11.3				
cudaEnableLegacyStream	11.3				
cudaEnablePerThreadDefaultStream	11.3				
cudaError					hipError_t
cudaErrorAddressOfConstant		3.1			
cudaErrorAlreadyAcquired	10.1				hipErrorAlreadyAcquired
cudaErrorAlreadyMapped	10.1				hipErrorAlreadyMapped
cudaErrorApiFailureBase		4.1			
cudaErrorArrayIsMapped	10.1				hipErrorArrayIsMapped
cudaErrorAssert					hipErrorAssert
cudaErrorCallRequiresNewerDriver	11.1				
cudaErrorCapturedEvent	10.0				hipErrorCapturedEvent
cudaErrorCdpNotSupported	12.0				
cudaErrorCdpVersionMismatch	12.0				
cudaErrorCompatNotSupportedOnDevice	10.1				
cudaErrorContained	12.8				
cudaErrorContextIsDestroyed	10.1				hipErrorContextIsDestroy
cudaErrorCooperativeLaunchTooLarge	9.0				hipErrorCooperativeLaun
cudaErrorCudartUnloading					hipErrorDeinitialized
cudaErrorDeviceAlreadyInUse					hipErrorContextAlreadyI
cudaErrorDeviceNotLicensed	11.1				
cudaErrorDeviceUninitialized	10.2				hipErrorInvalidContext
cudaErrorDevicesUnavailable					
cudaErrorDuplicateSurfaceName					
cudaErrorDuplicateTextureName					

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CUDA	A	D	C	R	HIP
cudaErrorDuplicateVariableName					
cudaErrorECCUncorrectable					hipErrorECCNotCorrectabl
cudaErrorExternalDevice					
cudaErrorFileNotFound	10.1				hipErrorFileNotFound
cudaErrorFunctionNotLoaded	12.6				
cudaErrorGraphExecUpdateFailure	10.2				hipErrorGraphExecUpdateI
cudaErrorHardwareStackError					
cudaErrorHostMemoryAlreadyRegistered					hipErrorHostMemoryAlread
cudaErrorHostMemoryNotRegistered					hipErrorHostMemoryNotReg
cudaErrorIllegalAddress					hipErrorIllegalAddress
cudaErrorIllegalInstruction					
cudaErrorIllegalState	10.0				hipErrorIllegalState
cudaErrorIncompatibleDriverContext					
cudaErrorInitializationError					hipErrorNotInitialized
cudaErrorInsufficientDriver					hipErrorInsufficientDriv
cudaErrorInvalidAddressSpace					
cudaErrorInvalidChannelDescriptor					hipErrorInvalidChannelDe
cudaErrorInvalidClusterSize	11.8				
cudaErrorInvalidConfiguration					hipErrorInvalidConfigura
cudaErrorInvalidDevice					hipErrorInvalidDevice
cudaErrorInvalidDeviceFunction					hipErrorInvalidDeviceFun
cudaErrorInvalidDevicePointer		10.1			hipErrorInvalidDevicePoi
cudaErrorInvalidFilterSetting					
cudaErrorInvalidGraphicsContext					hipErrorInvalidGraphicsC
cudaErrorInvalidHostPointer		10.1			
cudaErrorInvalidKernelImage					hipErrorInvalidImage
cudaErrorInvalidMemcpyDirection					hipErrorInvalidMemcpyDir
cudaErrorInvalidNormSetting					
cudaErrorInvalidPc					
cudaErrorInvalidPitchValue					hipErrorInvalidPitchValu
cudaErrorInvalidPtx					hipErrorInvalidKernelFil
cudaErrorInvalidResourceConfiguration	12.6				
cudaErrorInvalidResourceHandle					hipErrorInvalidHandle
cudaErrorInvalidResourceType	12.6				
cudaErrorInvalidSource	10.1				hipErrorInvalidSource
cudaErrorInvalidSurface					
cudaErrorInvalidSymbol					hipErrorInvalidSymbol
cudaErrorInvalidTexture					hipErrorInvalidTexture
cudaErrorInvalidTextureBinding					
cudaErrorInvalidValue					hipErrorInvalidValue
cudaErrorJitCompilationDisabled	11.2				
cudaErrorJitCompilerNotFound	9.0				
cudaErrorLaunchFailure					hipErrorLaunchFailure
cudaErrorLaunchFileScopedSurf					
cudaErrorLaunchFileScopedTex					
cudaErrorLaunchIncompatibleTexturing	10.1				
cudaErrorLaunchMaxDepthExceeded					
cudaErrorLaunchOutOfResources					hipErrorLaunchOutOfResou
cudaErrorLaunchPendingCountExceeded					
cudaErrorLaunchTimeout					hipErrorLaunchTimeOut

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CUDA	A	D	C	R	HIP
cudaErrorLossyQuery	12.3				hipErrorLossyQuery
cudaErrorMapBufferObjectFailed					hipErrorMapFailed
cudaErrorMemoryAllocation					hipErrorOutOfMemory
cudaErrorMemoryValueTooLarge		3.1			
cudaErrorMisalignedAddress					
cudaErrorMissingConfiguration					hipErrorMissingConfigura
cudaErrorMixedDeviceExecution		3.1			
cudaErrorMpsClientTerminated	11.8				
cudaErrorMpsConnectionFailed	11.4				
cudaErrorMpsMaxClientsReached	11.4				
cudaErrorMpsMaxConnectionsReached	11.4				
cudaErrorMpsRpcFailure	11.4				
cudaErrorMpsServerNotReady	11.4				
cudaErrorNoDevice					hipErrorNoDevice
cudaErrorNoKernelImageForDevice					hipErrorNoBinaryForGpu
cudaErrorNotMapped	10.1				hipErrorNotMapped
cudaErrorNotMappedAsArray	10.1				hipErrorNotMappedAsArray
cudaErrorNotMappedAsPointer	10.1				hipErrorNotMappedAsPoint
cudaErrorNotPermitted					
cudaErrorNotReady					hipErrorNotReady
cudaErrorNotSupported					hipErrorNotSupported
cudaErrorNotYetImplemented		4.1			
cudaErrorNvlinkUncorrectable	8.0				
cudaErrorOperatingSystem					hipErrorOperatingSystem
cudaErrorPeerAccessAlreadyEnabled					hipErrorPeerAccessAlread
cudaErrorPeerAccessNotEnabled					hipErrorPeerAccessNotEna
cudaErrorPeerAccessUnsupported					hipErrorPeerAccessUnsupp
cudaErrorPriorLaunchFailure		3.1			hipErrorPriorLaunchFailu
cudaErrorProfilerAlreadyStarted		5.0			hipErrorProfilerAlreadyS
cudaErrorProfilerAlreadyStopped		5.0			hipErrorProfilerAlreadyS
cudaErrorProfilerDisabled					hipErrorProfilerDisabled
cudaErrorProfilerNotInitialized		5.0			hipErrorProfilerNotIniti
cudaErrorSetOnActiveProcess					hipErrorSetOnActiveProce
cudaErrorSharedObjectInitFailed					hipErrorSharedObjectIni
cudaErrorSharedObjectSymbolNotFound					hipErrorSharedObjectSymb
cudaErrorSoftwareValidityNotEstablished	11.2				
cudaErrorStartupFailure					
cudaErrorStreamCaptureImplicit	10.0				hipErrorStreamCaptureImp
cudaErrorStreamCaptureInvalidated	10.0				hipErrorStreamCaptureInv
cudaErrorStreamCaptureIsolation	10.0				hipErrorStreamCaptureIso
cudaErrorStreamCaptureMerge	10.0				hipErrorStreamCaptureMer
cudaErrorStreamCaptureUnjoined	10.0				hipErrorStreamCaptureUnj
cudaErrorStreamCaptureUnmatched	10.0				hipErrorStreamCaptureUnm
cudaErrorStreamCaptureUnsupported	10.0				hipErrorStreamCaptureUns
cudaErrorStreamCaptureWrongThread	10.1				hipErrorStreamCaptureWro
cudaErrorStubLibrary	11.1				
cudaErrorSymbolNotFound	10.1				hipErrorNotFound
cudaErrorSyncDepthExceeded					
cudaErrorSynchronizationError		3.1			
cudaErrorSystemDriverMismatch	10.1				

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CUDA	A	D	C	R	HIP
cudaErrorSystemNotReady	10.0				
cudaErrorTensorMemoryLeak	12.8				
cudaErrorTextureFetchFailed		3.1			
cudaErrorTextureNotBound		3.1			
cudaErrorTimeout	10.2				
cudaErrorTooManyPeers					
cudaErrorUnknown					hipErrorUnknown
cudaErrorUnmapBufferObjectFailed					hipErrorUnmapFailed
cudaErrorUnsupportedDevSideSync	12.1				
cudaErrorUnsupportedExecAffinity	11.4				
cudaErrorUnsupportedLimit					hipErrorUnsupportedLimi
cudaErrorUnsupportedPtxVersion	11.1				
cudaError_t					hipError_t
cudaEventBlockingSync					hipEventBlockingSync
cudaEventDefault					hipEventDefault
cudaEventDisableTiming					hipEventDisableTiming
cudaEventInterprocess					hipEventInterprocess
cudaEventRecordDefault	11.1				hipEventRecordDefault
cudaEventRecordExternal	11.1				hipEventRecordExternal
cudaEventRecordNodeParams	12.2				hipEventRecordNodeParam
cudaEventWaitDefault	11.1				
cudaEventWaitExternal					
cudaEventWaitNodeParams	12.2				hipEventWaitNodeParams
cudaEvent_t					hipEvent_t
cudaExtent					hipExtent
cudaExternalMemoryBufferDesc	10.0				hipExternalMemoryBuffer
cudaExternalMemoryDedicated	10.0				hipExternalMemoryDedica
cudaExternalMemoryHandleDesc	10.0				hipExternalMemoryHandle
cudaExternalMemoryHandleType	10.0				hipExternalMemoryHandle
cudaExternalMemoryHandleTypeD3D11Resource	10.0				hipExternalMemoryHandle
cudaExternalMemoryHandleTypeD3D11ResourceKmt	10.2				hipExternalMemoryHandle
cudaExternalMemoryHandleTypeD3D12Heap	10.0				hipExternalMemoryHandle
cudaExternalMemoryHandleTypeD3D12Resource	10.0				hipExternalMemoryHandle
cudaExternalMemoryHandleTypeNvSciBuf	10.2				
cudaExternalMemoryHandleTypeOpaqueFd	10.0				hipExternalMemoryHandle
cudaExternalMemoryHandleTypeOpaqueWin32	10.0				hipExternalMemoryHandle
cudaExternalMemoryHandleTypeOpaqueWin32Kmt	10.0				hipExternalMemoryHandle
cudaExternalMemoryMipmappedArrayDesc	10.0				
cudaExternalMemory_t	10.0				hipExternalMemory_t
cudaExternalSemaphoreHandleDesc	10.0				hipExternalSemaphoreHand
cudaExternalSemaphoreHandleType	10.0				hipExternalSemaphoreHand
cudaExternalSemaphoreHandleTypeD3D11Fence	10.2				
cudaExternalSemaphoreHandleTypeD3D12Fence	10.0				hipExternalSemaphoreHand
cudaExternalSemaphoreHandleTypeKeyedMutex	10.2				
cudaExternalSemaphoreHandleTypeKeyedMutexKmt	10.2				
cudaExternalSemaphoreHandleTypeNvSciSync	10.2				
cudaExternalSemaphoreHandleTypeOpaqueFd	10.0				hipExternalSemaphoreHand
cudaExternalSemaphoreHandleTypeOpaqueWin32	10.0				hipExternalSemaphoreHand
cudaExternalSemaphoreHandleTypeOpaqueWin32Kmt	10.0				hipExternalSemaphoreHand
cudaExternalSemaphoreHandleTypeTimelineSemaphoreFd	11.2				

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CUDA	A	D	C	R	HIP
cudaExternalSemaphoreHandleTypeTimelineSemaphoreWin32	11.2				
cudaExternalSemaphoreSignalNodeParams	11.2				hipExternalSemaphoreSign
cudaExternalSemaphoreSignalNodeParamsV2	12.2				hipExternalSemaphoreSign
cudaExternalSemaphoreSignalParams	10.0				hipExternalSemaphoreSign
cudaExternalSemaphoreSignalParams_v1	11.2				hipExternalSemaphoreSign
cudaExternalSemaphoreSignalSkipNvSciBufMemSync	10.2				
cudaExternalSemaphoreWaitNodeParams	11.2				hipExternalSemaphoreWai
cudaExternalSemaphoreWaitNodeParamsV2	12.2				hipExternalSemaphoreWai
cudaExternalSemaphoreWaitParams	10.0				hipExternalSemaphoreWai
cudaExternalSemaphoreWaitParams_v1	11.2				hipExternalSemaphoreWai
cudaExternalSemaphoreWaitSkipNvSciBufMemSync	10.2				
cudaExternalSemaphore_t	10.0				hipExternalSemaphore_t
cudaFilterModeLinear					hipFilterModeLinear
cudaFilterModePoint					hipFilterModePoint
cudaFlushGPUDirectRDMAWritesOptionHost	11.3				hipFlushGPUDirectRDMAWri
cudaFlushGPUDirectRDMAWritesOptionMemOps	11.3				hipFlushGPUDirectRDMAWri
cudaFlushGPUDirectRDMAWritesOptions	11.3				hipFlushGPUDirectRDMAWri
cudaFlushGPUDirectRDMAWritesScope	11.3				
cudaFlushGPUDirectRDMAWritesTarget	11.3				
cudaFlushGPUDirectRDMAWritesTargetCurrentDevice	11.3				
cudaFlushGPUDirectRDMAWritesToAllDevices	11.3				
cudaFlushGPUDirectRDMAWritesToOwner	11.3				
cudaFormatModeAuto					
cudaFormatModeForced					
cudaFuncAttribute	9.0				hipFuncAttribute
cudaFuncAttributeClusterDimMustBeSet	11.8				
cudaFuncAttributeClusterSchedulingPolicyPreference	11.8				
cudaFuncAttributeMax	9.0				hipFuncAttributeMax
cudaFuncAttributeMaxDynamicSharedMemorySize	9.0				hipFuncAttributeMaxDynar
cudaFuncAttributeNonPortableClusterSizeAllowed	11.8				
cudaFuncAttributePreferredSharedMemoryCarveout	9.0				hipFuncAttributePreferr
cudaFuncAttributeRequiredClusterDepth	11.8				
cudaFuncAttributeRequiredClusterHeight	11.8				
cudaFuncAttributeRequiredClusterWidth	11.8				
cudaFuncAttributes					hipFuncAttributes
cudaFuncCache					hipFuncCache_t
cudaFuncCachePreferEqual					hipFuncCachePreferEqual
cudaFuncCachePreferL1					hipFuncCachePreferL1
cudaFuncCachePreferNone					hipFuncCachePreferNone
cudaFuncCachePreferShared					hipFuncCachePreferShared
cudaFunction_t	11.0				hipFunction_t
cudaGLDeviceList					hipGLDeviceList
cudaGLDeviceListAll					hipGLDeviceListAll
cudaGLDeviceListCurrentFrame					hipGLDeviceListCurrentF
cudaGLDeviceListNextFrame					hipGLDeviceListNextFrame
cudaGLMapFlags					
cudaGLMapFlagsNone					
cudaGLMapFlagsReadOnly					
cudaGLMapFlagsWriteDiscard					
cudaGPUDirectRDMAWritesOrdering	11.3				hipGPUDirectRDMAWritesO

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CUDA	A	D	C	R	HIP
cudaGPUDirectRDMAWritesOrderingAllDevices	11.3				hipGPUDirectRDMAWritesO
cudaGPUDirectRDMAWritesOrderingNone	11.3				hipGPUDirectRDMAWritesO
cudaGPUDirectRDMAWritesOrderingOwner	11.3				hipGPUDirectRDMAWritesO
cudaGetDriverEntryPointFlags	11.3				
cudaGraphChildGraphNodeOwnership	12.9				
cudaGraphChildGraphOwnershipClone	12.9				
cudaGraphChildGraphOwnershipMove	12.9				
cudaGraphCondAssignDefault	12.3				
cudaGraphCondTypeIf	12.3				
cudaGraphCondTypeSwitch	12.8				
cudaGraphCondTypeWhile	12.3				
cudaGraphConditionalHandle	12.3				
cudaGraphConditionalHandleFlags	12.3				
cudaGraphConditionalNodeType	12.3				
cudaGraphDebugDotFlags	11.3				hipGraphDebugDotFlags
cudaGraphDebugDotFlagsConditionalNodeParams	12.3				
cudaGraphDebugDotFlagsEventNodeParams	11.3				hipGraphDebugDotFlagsEv
cudaGraphDebugDotFlagsExtSemasSignalNodeParams	11.3				hipGraphDebugDotFlagsEx
cudaGraphDebugDotFlagsExtSemasWaitNodeParams	11.3				hipGraphDebugDotFlagsEx
cudaGraphDebugDotFlagsHandles	11.3				hipGraphDebugDotFlagsHa
cudaGraphDebugDotFlagsHostNodeParams	11.3				hipGraphDebugDotFlagsHo
cudaGraphDebugDotFlagsKernelNodeAttributes	11.3				hipGraphDebugDotFlagsKe
cudaGraphDebugDotFlagsKernelNodeParams	11.3				hipGraphDebugDotFlagsKe
cudaGraphDebugDotFlagsMemcpyNodeParams	11.3				hipGraphDebugDotFlagsMe
cudaGraphDebugDotFlagsMemsetNodeParams	11.3				hipGraphDebugDotFlagsMe
cudaGraphDebugDotFlagsVerbose	11.3				hipGraphDebugDotFlagsVe
cudaGraphDependencyType	12.3				hipGraphDependencyType
cudaGraphDependencyTypeDefault	12.3				hipGraphDependencyTypeD
cudaGraphDependencyTypeProgrammatic	12.3				hipGraphDependencyTypeP
cudaGraphDependencyType_enum	12.3				hipGraphDependencyType
cudaGraphDeviceNode_t	12.4				
cudaGraphEdgeData	12.3				hipGraphEdgeData
cudaGraphEdgeData_st	12.3				hipGraphEdgeData
cudaGraphExecUpdateError	10.2				hipGraphExecUpdateError
cudaGraphExecUpdateErrorAttributesChanged	11.6				
cudaGraphExecUpdateErrorFunctionChanged	10.2				hipGraphExecUpdateErrorF
cudaGraphExecUpdateErrorNodeTypeChanged	10.2				hipGraphExecUpdateErrorN
cudaGraphExecUpdateErrorNotSupported	10.2				hipGraphExecUpdateErrorN
cudaGraphExecUpdateErrorParametersChanged	10.2				hipGraphExecUpdateErrorP
cudaGraphExecUpdateErrorTopologyChanged	10.2				hipGraphExecUpdateErrorT
cudaGraphExecUpdateErrorUnsupportedFunctionChange	11.2				hipGraphExecUpdateErrorU
cudaGraphExecUpdateResult	10.2				hipGraphExecUpdateResult
cudaGraphExecUpdateResultInfo	12.0				
cudaGraphExecUpdateResultInfo_st	12.0				
cudaGraphExecUpdateSuccess	10.2				hipGraphExecUpdateSucces
cudaGraphExec_t	10.0				hipGraphExec_t
cudaGraphInstantiateConditionalHandleUnused	12.8				
cudaGraphInstantiateError	12.0				hipGraphInstantiateError
cudaGraphInstantiateFlagAutoFreeOnLaunch	11.4				hipGraphInstantiateFlagA
cudaGraphInstantiateFlagDeviceLaunch	12.0				hipGraphInstantiateFlagD

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CUDA	A	D	C	R	HIP
cudaGraphInstantiateFlagUpload	12.0				hipGraphInstantiateFlagU
cudaGraphInstantiateFlagUseNodePriority	11.7				hipGraphInstantiateFlagU
cudaGraphInstantiateFlags	11.4				hipGraphInstantiateFlags
cudaGraphInstantiateInvalidStructure	12.0				hipGraphInstantiateInval
cudaGraphInstantiateMultipleDevicesNotSupported	12.0				hipGraphInstantiateMulti
cudaGraphInstantiateNodeOperationNotSupported	12.0				hipGraphInstantiateNode
cudaGraphInstantiateParams	12.0				hipGraphInstantiatePara
cudaGraphInstantiateParams_st	12.0				hipGraphInstantiatePara
cudaGraphInstantiateResult	12.0				hipGraphInstantiateResu
cudaGraphInstantiateSuccess	12.0				hipGraphInstantiateSucc
cudaGraphKernelNodeField	12.4				
cudaGraphKernelNodeFieldEnabled	12.4				
cudaGraphKernelNodeFieldGridDim	12.4				
cudaGraphKernelNodeFieldInvalid	12.4				
cudaGraphKernelNodeFieldParam	12.4				
cudaGraphKernelNodePortDefault	12.3				hipGraphKernelNodePortD
cudaGraphKernelNodePortLaunchCompletion	12.3				hipGraphKernelNodePortLa
cudaGraphKernelNodePortProgrammatic	12.3				hipGraphKernelNodePortPr
cudaGraphKernelNodeUpdate	12.4				
cudaGraphMemAttrReservedMemCurrent	11.4				hipGraphMemAttrReservedM
cudaGraphMemAttrReservedMemHigh	11.4				hipGraphMemAttrReservedM
cudaGraphMemAttrUsedMemCurrent	11.4				hipGraphMemAttrUsedMemCu
cudaGraphMemAttrUsedMemHigh	11.4				hipGraphMemAttrUsedMemHi
cudaGraphMemAttributeType	11.4				hipGraphMemAttributeType
cudaGraphNodeParams	12.2				hipGraphNodeParams
cudaGraphNodeType	10.0				hipGraphNodeType
cudaGraphNodeTypeConditional	12.3				hipGraphNodeTypeConditio
cudaGraphNodeTypeCount	10.0				hipGraphNodeTypeCount
cudaGraphNodeTypeEmpty	10.0				hipGraphNodeTypeEmpty
cudaGraphNodeTypeEventRecord	11.1				hipGraphNodeTypeEventRec
cudaGraphNodeTypeExtSemaphoreSignal	11.4				hipGraphNodeTypeExtSemap
cudaGraphNodeTypeExtSemaphoreWait	11.4				hipGraphNodeTypeExtSemap
cudaGraphNodeTypeGraph	10.0				hipGraphNodeTypeGraph
cudaGraphNodeTypeHost	10.0				hipGraphNodeTypeHost
cudaGraphNodeTypeKernel	10.0				hipGraphNodeTypeKernel
cudaGraphNodeTypeMemAlloc	11.4				hipGraphNodeTypeMemAlloc
cudaGraphNodeTypeMemFree	11.4				hipGraphNodeTypeMemFree
cudaGraphNodeTypeMemcpy	10.0				hipGraphNodeTypeMemcpy
cudaGraphNodeTypeMemset	10.0				hipGraphNodeTypeMemset
cudaGraphNodeTypeWaitEvent	11.1				hipGraphNodeTypeWaitEven
cudaGraphNode_t	10.0				hipGraphNode_t
cudaGraphUserObjectMove	11.3				hipGraphUserObjectMove
cudaGraph_t	10.0				hipGraph_t
cudaGraphicsCubeFace					
cudaGraphicsCubeFaceNegativeX					
cudaGraphicsCubeFaceNegativeY					
cudaGraphicsCubeFaceNegativeZ					
cudaGraphicsCubeFacePositiveX					
cudaGraphicsCubeFacePositiveY					
cudaGraphicsCubeFacePositiveZ					

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CUDA	A	D	C	R	HIP
cudaGraphicsMapFlags					
cudaGraphicsMapFlagsNone					
cudaGraphicsMapFlagsReadOnly					
cudaGraphicsMapFlagsWriteDiscard					
cudaGraphicsRegisterFlags					hipGraphicsRegisterFlags
cudaGraphicsRegisterFlagsNone					hipGraphicsRegisterFlags
cudaGraphicsRegisterFlagsReadOnly					hipGraphicsRegisterFlags
cudaGraphicsRegisterFlagsSurfaceLoadStore					hipGraphicsRegisterFlags
cudaGraphicsRegisterFlagsTextureGather					hipGraphicsRegisterFlags
cudaGraphicsRegisterFlagsWriteDiscard					hipGraphicsRegisterFlags
cudaGraphicsResource					hipGraphicsResource
cudaGraphicsResource_t					hipGraphicsResource_t
cudaHostAllocDefault					hipHostMallocDefault
cudaHostAllocMapped					hipHostMallocMapped
cudaHostAllocPortable					hipHostMallocPortable
cudaHostAllocWriteCombined					hipHostMallocWriteCombi
cudaHostFn_t	10.0				hipHostFn_t
cudaHostNodeParams	10.0				hipHostNodeParams
cudaHostNodeParamsV2	12.2				
cudaHostRegisterDefault					hipHostRegisterDefault
cudaHostRegisterIoMemory	7.5				hipHostRegisterIoMemory
cudaHostRegisterMapped					hipHostRegisterMapped
cudaHostRegisterPortable					hipHostRegisterPortable
cudaHostRegisterReadOnly	11.1				hipHostRegisterReadOnly
cudaInitDeviceFlagsAreValid	12.0				
cudaInvalidDeviceId	8.0				hipInvalidDeviceId
cudaIpcEventHandle_st					hipIpcEventHandle_st
cudaIpcEventHandle_t					hipIpcEventHandle_t
cudaIpcMemHandle_st					hipIpcMemHandle_st
cudaIpcMemHandle_t					hipIpcMemHandle_t
cudaIpcMemLazyEnablePeerAccess					hipIpcMemLazyEnablePeer
cudaJitCacheMode	12.8				hipJitOptionCacheMode
cudaJitCacheOptionCA	12.8				
cudaJitCacheOptionCG	12.8				
cudaJitCacheOptionNone	12.8				
cudaJitErrorLogBuffer	12.8				hipJitOptionErrorLogBuf
cudaJitErrorLogBufferSizeBytes	12.8				hipJitOptionErrorLogBuf
cudaJitFallbackStrategy	12.8				hipJitOptionFallbackStr
cudaJitGenerateDebugInfo	12.8				hipJitOptionGenerateDeb
cudaJitGenerateLineInfo	12.8				hipJitOptionGenerateLin
cudaJitInfoLogBuffer	12.8				hipJitOptionInfoLogBuff
cudaJitInfoLogBufferSizeBytes	12.8				hipJitOptionInfoLogBuff
cudaJitLogVerbose	12.8				hipJitOptionLogVerbose
cudaJitMaxRegisters	12.8				hipJitOptionMaxRegisters
cudaJitMaxThreadsPerBlock	12.8				hipJitOptionMaxThreadsP
cudaJitMinCtaPerSm	12.8				hipJitOptionMinCTAPerSM
cudaJitOptimizationLevel	12.8				hipJitOptionOptimizatio
cudaJitOption	12.8				hipJitOption
cudaJitOverrideDirectiveValues	12.8				hipJitOptionOverrideDir
cudaJitPositionIndependentCode	12.8				hipJitOptionPositionInd

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CUDA	A	D	C	R	HIP
cudaJitThreadsPerBlock	12.8				hipJitOptionThreadsPerB
cudaJitWallTime	12.8				hipJitOptionWallTime
cudaJit_CacheMode	12.8				
cudaJit_Fallback	12.8				
cudaKernelNodeAttrID	11.0				hipKernelNodeAttrID
cudaKernelNodeAttrValue	11.0				hipKernelNodeAttrValue
cudaKernelNodeAttributeAccessPolicyWindow	11.0				hipKernelNodeAttributeA
cudaKernelNodeAttributeClusterDimension	11.8				
cudaKernelNodeAttributeClusterSchedulingPolicyPreference	11.8				
cudaKernelNodeAttributeCooperative	11.0				hipKernelNodeAttributeC
cudaKernelNodeAttributeDeviceUpdatableKernelNode	12.4				
cudaKernelNodeAttributeMemSyncDomain	12.0				
cudaKernelNodeAttributeMemSyncDomainMap	12.0				
cudaKernelNodeAttributePreferredSharedMemoryCarveout	12.5				
cudaKernelNodeAttributePriority	11.7				hipKernelNodeAttributeP
cudaKernelNodeParams	10.0				hipKernelNodeParams
cudaKernelNodeParamsV2	12.2				
cudaKernel_t	12.1				
cudaKeyValuePair				12.0	
cudaLaunchAttribute	11.8				hipLaunchAttribute
cudaLaunchAttributeAccessPolicyWindow	11.8				hipLaunchAttributeAccess
cudaLaunchAttributeClusterDimension	11.8				
cudaLaunchAttributeClusterSchedulingPolicyPreference	11.8				
cudaLaunchAttributeCooperative	11.8				hipLaunchAttributeCooper
cudaLaunchAttributeDeviceUpdatableKernelNode	12.4				
cudaLaunchAttributeID	11.8				hipLaunchAttributeID
cudaLaunchAttributeIgnore	11.8				
cudaLaunchAttributeLaunchCompletionEvent	12.3				
cudaLaunchAttributeMemSyncDomain	12.0				
cudaLaunchAttributeMemSyncDomainMap	12.0				
cudaLaunchAttributePreferredClusterDimension	12.8				
cudaLaunchAttributePreferredSharedMemoryCarveout	12.5				
cudaLaunchAttributePriority	11.8				hipLaunchAttributePrior
cudaLaunchAttributeProgrammaticEvent	11.8				
cudaLaunchAttributeProgrammaticStreamSerialization	11.8				
cudaLaunchAttributeSynchronizationPolicy	11.8				
cudaLaunchAttributeValue	11.8				hipLaunchAttributeValue
cudaLaunchAttribute_st	11.8				hipLaunchAttribute_st
cudaLaunchConfig_st	11.8				hipLaunchConfig_st
cudaLaunchConfig_t	11.8				hipLaunchConfig_t
cudaLaunchMemSyncDomain	12.0				
cudaLaunchMemSyncDomainDefault	12.0				
cudaLaunchMemSyncDomainMap	12.0				
cudaLaunchMemSyncDomainMap_st	12.0				
cudaLaunchMemSyncDomainRemote	12.0				
cudaLaunchParams	9.0				hipLaunchParams
cudaLibraryBinaryIsPreserved	12.8				
cudaLibraryHostUniversalFunctionAndDataTable	12.8				
cudaLibraryOption	12.8				
cudaLibrary_t	12.8				

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CUDA	A	D	C	R	HIP
cudaLimit					hipLimit_t
cudaLimitDevRuntimePendingLaunchCount					
cudaLimitDevRuntimeSyncDepth					
cudaLimitMallocHeapSize					hipLimitMallocHeapSize
cudaLimitMaxL2FetchGranularity	10.0				
cudaLimitPersistingL2CacheSize	11.0				
cudaLimitPrintfFifoSize					hipLimitPrintfFifoSize
cudaLimitStackSize					hipLimitStackSize
cudaMemAccessDesc	11.2				hipMemAccessDesc
cudaMemAccessFlags	11.2				hipMemAccessFlags
cudaMemAccessFlagsProtNone	11.2				hipMemAccessFlagsProtNo
cudaMemAccessFlagsProtRead	11.2				hipMemAccessFlagsProtRe
cudaMemAccessFlagsProtReadWrite	11.2				hipMemAccessFlagsProtRe
cudaMemAdviseSetAccessedBy	8.0				hipMemAdviseSetAccessed
cudaMemAdviseSetPreferredLocation	8.0				hipMemAdviseSetPreferre
cudaMemAdviseSetReadMostly	8.0				hipMemAdviseSetReadMost
cudaMemAdviseUnsetAccessedBy	8.0				hipMemAdviseUnsetAccess
cudaMemAdviseUnsetPreferredLocation	8.0				hipMemAdviseUnsetPrefer
cudaMemAdviseUnsetReadMostly	8.0				hipMemAdviseUnsetReadMo
cudaMemAllocNodeParams	11.4				hipMemAllocNodeParams
cudaMemAllocNodeParamsV2	12.2				
cudaMemAllocationHandleType	11.2				hipMemAllocationHandleT
cudaMemAllocationType	11.2				hipMemAllocationType
cudaMemAllocationTypeInvalid	11.2				hipMemAllocationTypeInv
cudaMemAllocationTypeMax	11.2				hipMemAllocationTypeMax
cudaMemAllocationTypePinned	11.2				hipMemAllocationTypePin
cudaMemAttachGlobal					hipMemAttachGlobal
cudaMemAttachHost					hipMemAttachHost
cudaMemAttachSingle					hipMemAttachSingle
cudaMemFabricHandle_st	12.3				
cudaMemFabricHandle_t	12.3				
cudaMemFreeNodeParams	12.2				hipMemFreeNodeParams
cudaMemHandleTypeFabric	12.4				
cudaMemHandleTypeNone	11.2				hipMemHandleTypeNone
cudaMemHandleTypePosixFileDescriptor	11.2				hipMemHandleTypePosixFi
cudaMemHandleTypeWin32	11.2				hipMemHandleTypeWin32
cudaMemHandleTypeWin32Kmt	11.2				hipMemHandleTypeWin32Km
cudaMemLocation	11.2				hipMemLocation
cudaMemLocationType	11.2				hipMemLocationType
cudaMemLocationTypeDevice	11.2				hipMemLocationTypeDevic
cudaMemLocationTypeHost	12.2				
cudaMemLocationTypeHostNuma	12.2				
cudaMemLocationTypeHostNumaCurrent	12.2				
cudaMemLocationTypeInvalid	11.2				hipMemLocationTypeInval
cudaMemPoolAttr	11.2				hipMemPoolAttr
cudaMemPoolAttrReleaseThreshold	11.2				hipMemPoolAttrReleaseTh
cudaMemPoolAttrReservedMemCurrent	11.3				hipMemPoolAttrReservedM
cudaMemPoolAttrReservedMemHigh	11.3				hipMemPoolAttrReservedM
cudaMemPoolAttrUsedMemCurrent	11.3				hipMemPoolAttrUsedMemCu
cudaMemPoolAttrUsedMemHigh	11.3				hipMemPoolAttrUsedMemHi

Table 7.4 – continued from previous page

CUDA	A	D	C	R	HIP
cudaMemPoolCreateUsageHwDecompress	12.8				
cudaMemPoolProps	11.2				hipMemPoolProps
cudaMemPoolPtrExportData	11.2				hipMemPoolPtrExportData
cudaMemPoolReuseAllowInternalDependencies	11.2				hipMemPoolReuseAllowInte
cudaMemPoolReuseAllowOpportunistic	11.2				hipMemPoolReuseAllowOppo
cudaMemPoolReuseFollowEventDependencies	11.2				hipMemPoolReuseFollowEve
cudaMemPool_t	11.2				hipMemPool_t
cudaMemRangeAttribute	8.0				hipMemRangeAttribute
cudaMemRangeAttributeAccessedBy	8.0				hipMemRangeAttributeAcce
cudaMemRangeAttributeLastPrefetchLocation	8.0				hipMemRangeAttributeLas
cudaMemRangeAttributeLastPrefetchLocationId	12.2				
cudaMemRangeAttributeLastPrefetchLocationType	12.2				
cudaMemRangeAttributePreferredLocation	8.0				hipMemRangeAttributePre
cudaMemRangeAttributePreferredLocationId	12.2				
cudaMemRangeAttributePreferredLocationType	12.2				
cudaMemRangeAttributeReadMostly	8.0				hipMemRangeAttributeRea
cudaMemcpy3DBatchOp	12.8				
cudaMemcpy3DOperand	12.8				
cudaMemcpy3DOperandType	12.8				
cudaMemcpy3DParms					hipMemcpy3DParms
cudaMemcpy3DPeerParms					
cudaMemcpyAttributes	12.8				
cudaMemcpyDefault					hipMemcpyDefault
cudaMemcpyDeviceToDevice					hipMemcpyDeviceToDevice
cudaMemcpyDeviceToHost					hipMemcpyDeviceToHost
cudaMemcpyFlagDefault	12.8				
cudaMemcpyFlagPreferOverlapWithCompute	12.8				
cudaMemcpyFlags	12.8				
cudaMemcpyHostToDevice					hipMemcpyHostToDevice
cudaMemcpyHostToHost					hipMemcpyHostToHost
cudaMemcpyKind					hipMemcpyKind
cudaMemcpyNodeParams	12.2				hipMemcpyNodeParams
cudaMemcpyOperandTypeArray	12.8				
cudaMemcpyOperandTypeMax	12.8				
cudaMemcpyOperandTypePointer	12.8				
cudaMemcpySrcAccessOrder	12.8				
cudaMemcpySrcAccessOrderAny	12.8				
cudaMemcpySrcAccessOrderDuringApiCall	12.8				
cudaMemcpySrcAccessOrderInvalid	12.8				
cudaMemcpySrcAccessOrderMax	12.8				
cudaMemcpySrcAccessOrderStream	12.8				
cudaMemoryAdvise	8.0				hipMemoryAdvise
cudaMemoryType					hipMemoryType
cudaMemoryTypeDevice					hipMemoryTypeDevice
cudaMemoryTypeHost					hipMemoryTypeHost
cudaMemoryTypeManaged	10.0				hipMemoryTypeManaged
cudaMemoryTypeUnregistered					
cudaMemsetParams	10.0				hipMemsetParams
cudaMemsetParamsV2	12.2				
cudaMipmappedArray					hipMipmappedArray

Table 7.4 – continued from previous page

CUDA	A	D	C	R	HIP
cudaMipmappedArray_const_t					hipMipmappedArray_const_
cudaMipmappedArray_t					hipMipmappedArray_t
cudaNvSciSyncAttrSignal	10.2				
cudaNvSciSyncAttrWait	10.2				
cudaOccupancyDefault					hipOccupancyDefault
cudaOccupancyDisableCachingOverride					hipOccupancyDisableCachi
cudaOffset3D	12.8				
cudaOutputMode				12.0	
cudaOutputMode_t				12.0	
cudaPitchedPtr					hipPitchedPtr
cudaPointerAttributes					hipPointerAttribute_t
cudaPos					hipPos
cudaPreferBinary	12.8				
cudaPreferPtx	12.8				
cudaReadModeElementType					hipReadModeElementType
cudaReadModeNormalizedFloat					hipReadModeNormalizedFl
cudaResViewFormatFloat1					hipResViewFormatFloat1
cudaResViewFormatFloat2					hipResViewFormatFloat2
cudaResViewFormatFloat4					hipResViewFormatFloat4
cudaResViewFormatHalf1					hipResViewFormatHalf1
cudaResViewFormatHalf2					hipResViewFormatHalf2
cudaResViewFormatHalf4					hipResViewFormatHalf4
cudaResViewFormatNone					hipResViewFormatNone
cudaResViewFormatSignedBlockCompressed4					hipResViewFormatSignedBl
cudaResViewFormatSignedBlockCompressed5					hipResViewFormatSignedBl
cudaResViewFormatSignedBlockCompressed6H					hipResViewFormatSignedBl
cudaResViewFormatSignedChar1					hipResViewFormatSignedCh
cudaResViewFormatSignedChar2					hipResViewFormatSignedCh
cudaResViewFormatSignedChar4					hipResViewFormatSignedCh
cudaResViewFormatSignedInt1					hipResViewFormatSignedIn
cudaResViewFormatSignedInt2					hipResViewFormatSignedIn
cudaResViewFormatSignedInt4					hipResViewFormatSignedIn
cudaResViewFormatSignedShort1					hipResViewFormatSignedSh
cudaResViewFormatSignedShort2					hipResViewFormatSignedSh
cudaResViewFormatSignedShort4					hipResViewFormatSignedSh
cudaResViewFormatUnsignedBlockCompressed1					hipResViewFormatUnsigned
cudaResViewFormatUnsignedBlockCompressed2					hipResViewFormatUnsigned
cudaResViewFormatUnsignedBlockCompressed3					hipResViewFormatUnsigned
cudaResViewFormatUnsignedBlockCompressed4					hipResViewFormatUnsigned
cudaResViewFormatUnsignedBlockCompressed5					hipResViewFormatUnsigned
cudaResViewFormatUnsignedBlockCompressed6H					hipResViewFormatUnsigned
cudaResViewFormatUnsignedBlockCompressed7					hipResViewFormatUnsigned
cudaResViewFormatUnsignedChar1					hipResViewFormatUnsigned
cudaResViewFormatUnsignedChar2					hipResViewFormatUnsigned
cudaResViewFormatUnsignedChar4					hipResViewFormatUnsigned
cudaResViewFormatUnsignedInt1					hipResViewFormatUnsigned
cudaResViewFormatUnsignedInt2					hipResViewFormatUnsigned
cudaResViewFormatUnsignedInt4					hipResViewFormatUnsigned
cudaResViewFormatUnsignedShort1					hipResViewFormatUnsigned
cudaResViewFormatUnsignedShort2					hipResViewFormatUnsigned

Table 7.4 – continued from previous page

CUDA	A	D	C	R	HIP
cudaResViewFormatUnsignedShort4					hipResViewFormatUnsigned
cudaResourceDesc					hipResourceDesc
cudaResourceType					hipResourceType
cudaResourceTypeArray					hipResourceTypeArray
cudaResourceTypeLinear					hipResourceTypeLinear
cudaResourceTypeMipmappedArray					hipResourceTypeMipmapped
cudaResourceTypePitch2D					hipResourceTypePitch2D
cudaResourceViewDesc					hipResourceViewDesc
cudaResourceViewFormat					hipResourceViewFormat
cudaSharedCarveout	9.0				
cudaSharedMemBankSizeDefault					hipSharedMemBankSizeDefa
cudaSharedMemBankSizeEightByte					hipSharedMemBankSizeEigh
cudaSharedMemBankSizeFourByte					hipSharedMemBankSizeFour
cudaSharedMemConfig		12.4			hipSharedMemConfig
cudaSharedmemCarveoutDefault	9.0				
cudaSharedmemCarveoutMaxL1	9.0				
cudaSharedmemCarveoutMaxShared	9.0				
cudaStreamAddCaptureDependencies	11.3				hipStreamAddCaptureDepen
cudaStreamAttrID	11.0				
cudaStreamAttrValue	11.0				
cudaStreamAttributeAccessPolicyWindow	11.0				
cudaStreamAttributeMemSyncDomain	12.0				
cudaStreamAttributeMemSyncDomainMap	12.0				
cudaStreamAttributePriority	12.0				
cudaStreamAttributeSynchronizationPolicy	11.0				
cudaStreamCallback_t					hipStreamCallback_t
cudaStreamCaptureMode	10.1				hipStreamCaptureMode
cudaStreamCaptureModeGlobal	10.1				hipStreamCaptureModeGlob
cudaStreamCaptureModeRelaxed	10.1				hipStreamCaptureModeRela
cudaStreamCaptureModeThreadLocal	10.1				hipStreamCaptureModeThre
cudaStreamCaptureStatus	10.0				hipStreamCaptureStatus
cudaStreamCaptureStatusActive	10.0				hipStreamCaptureStatusA
cudaStreamCaptureStatusInvalidated	10.0				hipStreamCaptureStatusIn
cudaStreamCaptureStatusNone	10.0				hipStreamCaptureStatusNo
cudaStreamDefault					hipStreamDefault
cudaStreamLegacy	9.0				hipStreamLegacy
cudaStreamNonBlocking					hipStreamNonBlocking
cudaStreamPerThread					hipStreamPerThread
cudaStreamSetCaptureDependencies	11.3				hipStreamSetCaptureDepen
cudaStreamUpdateCaptureDependenciesFlags	11.3				hipStreamUpdateCaptureDe
cudaStream_t					hipStream_t
cudaSuccess					hipSuccess
cudaSurfaceBoundaryMode					hipSurfaceBoundaryMode
cudaSurfaceFormatMode					
cudaSurfaceObject_t					hipSurfaceObject_t
cudaSyncPolicyAuto	11.0				
cudaSyncPolicyBlockingSync	11.0				
cudaSyncPolicySpin	11.0				
cudaSyncPolicyYield	11.0				
cudaSynchronizationPolicy	11.0				

Table 7.4 – continued from previous page

CUDA	A	D	C	R	HIP
cudaTextureAddressMode					hipTextureAddressMode
cudaTextureDesc					hipTextureDesc
cudaTextureFilterMode					hipTextureFilterMode
cudaTextureObject_t					hipTextureObject_t
cudaTextureReadMode					hipTextureReadMode
cudaTextureType1D					hipTextureType1D
cudaTextureType1DLayered					hipTextureType1DLayered
cudaTextureType2D					hipTextureType2D
cudaTextureType2DLayered					hipTextureType2DLayered
cudaTextureType3D					hipTextureType3D
cudaTextureTypeCubemap					hipTextureTypeCubemap
cudaTextureTypeCubemapLayered					hipTextureTypeCubemapLay
cudaUUID_t					hipUUID
cudaUserObjectFlags	11.3				hipUserObjectFlags
cudaUserObjectNoDestructorSync	11.3				hipUserObjectNoDestructo
cudaUserObjectRetainFlags	11.3				hipUserObjectRetainFlags
cudaUserObject_t	11.3				hipUserObject_t
cudalibraryHostUniversalFunctionAndDataTable	12.8				
libraryPropertyType	8.0				
libraryPropertyType_t	8.0				
surfaceReference				12.0	surfaceReference
texture				12.0	texture
textureReference					textureReference

7.1.37 37. Execution Control [REMOVED]

CUDA	A	D	C	R	HIP	A	D	C	R	E
cudaConfigureCall				10.1	hipConfigureCall	1.9.0				
cudaLaunch				10.1	hipLaunchByPtr	1.9.0				
cudaSetupArgument				10.1	hipSetupArgument	1.9.0				

7.1.38 38. Texture Reference Management [REMOVED]

CUDA	A	D	C	R	HIP	A	D	C	R	E
cudaBindTexture		11.0		12.0	hipBindTexture	1.6.0	3.8.0			
cudaBindTexture2D		11.0		12.0	hipBindTexture2D	1.7.0	3.8.0			
cudaBindTextureToArray		11.0		12.0	hipBindTextureToArray	1.6.0	3.8.0			
cudaBindTextureToMipmappe		11.0		12.0	hipBindTextureToMipmappe	1.7.0	5.7.0			
cudaGetTextureAlignmentOf		11.0		12.0	hipGetTextureAlignmentOf	1.9.0	3.8.0			
cudaGetTextureReference		11.0		12.0	hipGetTextureReference	1.7.0	5.3.0			
cudaUnbindTexture		11.0		12.0	hipUnbindTexture	1.6.0	3.8.0			

7.1.39 39. Surface Reference Management [REMOVED]

CUDA	A	D	C	R	HIP	A	D	C	R	E
cudaBindSurfaceToArray		11.0		12.0						
cudaGetSurfaceReference		11.0		12.0						

7.1.40 40. Profiler Control [REMOVED]

CUDA	A	D	C	R	HIP	A	D	C	R	E
cudaProfilerInitialize		11.0		12.0						

7.2 CUDA Driver API supported by HIP

Note: In the tables that follow the columns marked A, D, C, R, and E mean the following: **A** - Added; **D** - Deprecated; **C** - Changed; **R** - Removed; **E** - Experimental

7.2.1 1. CUDA Driver Data Types

CUDA	A	D	C	R	HIP
CIG_DATA_TYPE_D3D12_COMMAND_QUEUE	12.5				
CIG_DATA_TYPE_NV_BLOB	12.9				
CUCoredumpGenerationFlags	12.5				
CUDA_ARRAY3D_2DARRAY		5.0			
CUDA_ARRAY3D_COLOR_ATTACHMENT	10.0				
CUDA_ARRAY3D_CUBEMAP					hipArrayCubemap

Table 7.5 – continued from previous page

CUDA	A	D	C	R	HIP
CUDA_ARRAY3D_DEFERRED_MAPPING	11.6				
CUDA_ARRAY3D_DEPTH_TEXTURE					
CUDA_ARRAY3D_DESCRIPTOR					HIP_ARRAY3D_DES
CUDA_ARRAY3D_DESCRIPTOR_st					HIP_ARRAY3D_DES
CUDA_ARRAY3D_DESCRIPTOR_v2	11.3				HIP_ARRAY3D_DES
CUDA_ARRAY3D_LAYERED					hipArrayLayered
CUDA_ARRAY3D_SPARSE	11.1				
CUDA_ARRAY3D_SURFACE_LDST					hipArraySurface
CUDA_ARRAY3D_TEXTURE_GATHER					hipArrayTexture
CUDA_ARRAY3D_VIDEO_ENCODE_DECODE	12.5				
CUDA_ARRAY_DESCRIPTOR					HIP_ARRAY_DESCI
CUDA_ARRAY_DESCRIPTOR_st					HIP_ARRAY_DESCI
CUDA_ARRAY_DESCRIPTOR_v1					HIP_ARRAY_DESCI
CUDA_ARRAY_DESCRIPTOR_v1_st					HIP_ARRAY_DESCI
CUDA_ARRAY_DESCRIPTOR_v2	11.3				HIP_ARRAY_DESCI
CUDA_ARRAY_MEMORY_REQUIREMENTS	11.6				
CUDA_ARRAY_MEMORY_REQUIREMENTS_st	11.6				
CUDA_ARRAY_MEMORY_REQUIREMENTS_v1	11.6				
CUDA_ARRAY_SPARSE_PROPERTIES	11.1				
CUDA_ARRAY_SPARSE_PROPERTIES_st	11.1				
CUDA_ARRAY_SPARSE_PROPERTIES_v1	11.3				
CUDA_BATCH_MEM_OP_NODE_PARAMS	11.7				hipBatchMemOpNo
CUDA_BATCH_MEM_OP_NODE_PARAMS_st	11.7			12.2	hipBatchMemOpNo
CUDA_BATCH_MEM_OP_NODE_PARAMS_v1	12.2				hipBatchMemOpNo
CUDA_BATCH_MEM_OP_NODE_PARAMS_v1_st	12.2				hipBatchMemOpNo
CUDA_BATCH_MEM_OP_NODE_PARAMS_v2	12.2				hipBatchMemOpNo
CUDA_BATCH_MEM_OP_NODE_PARAMS_v2_st	12.2				hipBatchMemOpNo
CUDA_CB					
CUDA_CHILD_GRAPH_NODE_PARAMS	12.2				hipChildGraphNo
CUDA_CHILD_GRAPH_NODE_PARAMS_st	12.2				hipChildGraphNo
CUDA_CONDITIONAL_NODE_PARAMS	12.3				
CUDA_COOPERATIVE_LAUNCH_MULTI_DEVICE_NO_POST_LAUNCH_SYNC	9.0				hipCooperativeL
CUDA_COOPERATIVE_LAUNCH_MULTI_DEVICE_NO_PRE_LAUNCH_SYNC	9.0				hipCooperativeL
CUDA_ERROR_ALREADY_ACQUIRED					hipErrorAlready
CUDA_ERROR_ALREADY_MAPPED					hipErrorAlready
CUDA_ERROR_ARRAY_IS_MAPPED					hipErrorArrayIs
CUDA_ERROR_ASSERT					hipErrorAssert
CUDA_ERROR_CAPTURED_EVENT	10.0				hipErrorCapture
CUDA_ERROR_CDP_NOT_SUPPORTED	12.0				
CUDA_ERROR_CDP_VERSION_MISMATCH	12.0				
CUDA_ERROR_COMPAT_NOT_SUPPORTED_ON_DEVICE	10.1				
CUDA_ERROR_CONTAINED	12.8				
CUDA_ERROR_CONTEXT_ALREADY_CURRENT		3.2			hipErrorContext
CUDA_ERROR_CONTEXT_ALREADY_IN_USE					hipErrorContext
CUDA_ERROR_CONTEXT_IS_DESTROYED					hipErrorContext
CUDA_ERROR_COOPERATIVE_LAUNCH_TOO_LARGE	9.0				hipErrorCooperat
CUDA_ERROR_DEINITIALIZED					hipErrorDeinit
CUDA_ERROR_DEVICE_NOT_LICENSED	11.1				
CUDA_ERROR_DEVICE_UNAVAILABLE	11.7				
CUDA_ERROR_ECC_UNCORRECTABLE					hipErrorECCNotC

Table 7.5 – continued from previous page

CUDA	A	D	C	R	HIP
CUDA_ERROR_EXTERNAL_DEVICE	11.4				
CUDA_ERROR_FILE_NOT_FOUND					hipErrorFileNo
CUDA_ERROR_FUNCTION_NOT_LOADED	12.4				
CUDA_ERROR_GRAPH_EXEC_UPDATE_FAILURE	10.2				hipErrorGraphE
CUDA_ERROR_HARDWARE_STACK_ERROR					
CUDA_ERROR_HOST_MEMORY_ALREADY_REGISTERED					hipErrorHostMe
CUDA_ERROR_HOST_MEMORY_NOT_REGISTERED					hipErrorHostMe
CUDA_ERROR_ILLEGAL_ADDRESS					hipErrorIllega
CUDA_ERROR_ILLEGAL_INSTRUCTION					
CUDA_ERROR_ILLEGAL_STATE	10.0				hipErrorIllega
CUDA_ERROR_INVALID_ADDRESS_SPACE					
CUDA_ERROR_INVALID_CLUSTER_SIZE	11.8				
CUDA_ERROR_INVALID_CONTEXT					hipErrorInvali
CUDA_ERROR_INVALID_DEVICE					hipErrorInvali
CUDA_ERROR_INVALID_GRAPHICS_CONTEXT					hipErrorInvali
CUDA_ERROR_INVALID_HANDLE					hipErrorInvali
CUDA_ERROR_INVALID_IMAGE					hipErrorInvali
CUDA_ERROR_INVALID_PC					
CUDA_ERROR_INVALID_PTX					hipErrorInvali
CUDA_ERROR_INVALID_RESOURCE_CONFIGURATION	12.4				
CUDA_ERROR_INVALID_RESOURCE_TYPE	12.4				
CUDA_ERROR_INVALID_SOURCE					hipErrorInvali
CUDA_ERROR_INVALID_VALUE					hipErrorInvali
CUDA_ERROR_JIT_COMPILATION_DISABLED	11.2				
CUDA_ERROR_JIT_COMPILER_NOT_FOUND	9.0				
CUDA_ERROR_KEY_ROTATION	12.8				
CUDA_ERROR_LAUNCH_FAILED					hipErrorLaunch
CUDA_ERROR_LAUNCH_INCOMPATIBLE_TEXTURING					
CUDA_ERROR_LAUNCH_OUT_OF_RESOURCES					hipErrorLaunch
CUDA_ERROR_LAUNCH_TIMEOUT					hipErrorLaunch
CUDA_ERROR_LOSSY_QUERY					
CUDA_ERROR_MAP_FAILED					hipErrorMapFai
CUDA_ERROR_MISALIGNED_ADDRESS					
CUDA_ERROR_MPS_CLIENT_TERMINATED	11.8				
CUDA_ERROR_MPS_CONNECTION_FAILED	11.4				
CUDA_ERROR_MPS_MAX_CLIENTS_REACHED	11.4				
CUDA_ERROR_MPS_MAX_CONNECTIONS_REACHED	11.4				
CUDA_ERROR_MPS_RPC_FAILURE	11.4				
CUDA_ERROR_MPS_SERVER_NOT_READY	11.4				
CUDA_ERROR_NOT_FOUND					hipErrorNotFou
CUDA_ERROR_NOT_INITIALIZED					hipErrorNotIni
CUDA_ERROR_NOT_MAPPED					hipErrorNotMap
CUDA_ERROR_NOT_MAPPED_AS_ARRAY					hipErrorNotMap
CUDA_ERROR_NOT_MAPPED_AS_POINTER					hipErrorNotMap
CUDA_ERROR_NOT_PERMITTED					
CUDA_ERROR_NOT_READY					hipErrorNotRea
CUDA_ERROR_NOT_SUPPORTED					hipErrorNotSup
CUDA_ERROR_NO_BINARY_FOR_GPU					hipErrorNoBina
CUDA_ERROR_NO_DEVICE					hipErrorNoDevi
CUDA_ERROR_NVLINK_UNCORRECTABLE	8.0				

Table 7.5 – continued from previous page

CUDA	A	D	C	R	HIP
CUDA_ERROR_OPERATING_SYSTEM					hipErrorOperati
CUDA_ERROR_OUT_OF_MEMORY					hipErrorOutOfM
CUDA_ERROR_PEER_ACCESS_ALREADY_ENABLED					hipErrorPeerAc
CUDA_ERROR_PEER_ACCESS_NOT_ENABLED					hipErrorPeerAc
CUDA_ERROR_PEER_ACCESS_UNSUPPORTED					hipErrorPeerAc
CUDA_ERROR_PRIMARY_CONTEXT_ACTIVE					hipErrorSetOnA
CUDA_ERROR_PROFILER_ALREADY_STARTED		5.0			hipErrorProfil
CUDA_ERROR_PROFILER_ALREADY_STOPPED		5.0			hipErrorProfil
CUDA_ERROR_PROFILER_DISABLED					hipErrorProfil
CUDA_ERROR_PROFILER_NOT_INITIALIZED		5.0			hipErrorProfil
CUDA_ERROR_SHARED_OBJECT_INIT_FAILED					hipErrorShared
CUDA_ERROR_SHARED_OBJECT_SYMBOL_NOT_FOUND					hipErrorShared
CUDA_ERROR_STREAM_CAPTURE_IMPLICIT	10.0				hipErrorStream
CUDA_ERROR_STREAM_CAPTURE_INVALIDATED	10.0				hipErrorStream
CUDA_ERROR_STREAM_CAPTURE_ISOLATION	10.0				hipErrorStream
CUDA_ERROR_STREAM_CAPTURE_MERGE	10.0				hipErrorStream
CUDA_ERROR_STREAM_CAPTURE_UNJOINED	10.0				hipErrorStream
CUDA_ERROR_STREAM_CAPTURE_UNMATCHED	10.0				hipErrorStream
CUDA_ERROR_STREAM_CAPTURE_UNSUPPORTED	10.0				hipErrorStream
CUDA_ERROR_STREAM_CAPTURE_WRONG_THREAD	10.1				hipErrorStream
CUDA_ERROR_STUB_LIBRARY	11.1				
CUDA_ERROR_SYSTEM_DRIVER_MISMATCH	10.1				
CUDA_ERROR_SYSTEM_NOT_READY	10.0				
CUDA_ERROR_TENSOR_MEMORY_LEAK	12.8				
CUDA_ERROR_TIMEOUT	10.2				
CUDA_ERROR_TOO_MANY_PEERS					
CUDA_ERROR_UNKNOWN					hipErrorUnknow
CUDA_ERROR_UNMAP_FAILED					hipErrorUnmapF
CUDA_ERROR_UNSUPPORTED_DEVSIDE_SYNC	12.1				
CUDA_ERROR_UNSUPPORTED_EXEC_AFFINITY	11.4				
CUDA_ERROR_UNSUPPORTED_LIMIT					hipErrorUnsupp
CUDA_ERROR_UNSUPPORTED_PTX_VERSION	11.1				
CUDA_EVENT_RECORD_NODE_PARAMS	12.2				hipEventRecord
CUDA_EVENT_RECORD_NODE_PARAMS_st	12.2				hipEventRecord
CUDA_EVENT_WAIT_NODE_PARAMS	12.2				hipEventWaitNo
CUDA_EVENT_WAIT_NODE_PARAMS_st	12.2				hipEventWaitNo
CUDA_EXTERNAL_MEMORY_BUFFER_DESC	10.0				hipExternalMem
CUDA_EXTERNAL_MEMORY_BUFFER_DESC_st	10.0				hipExternalMem
CUDA_EXTERNAL_MEMORY_BUFFER_DESC_v1	11.3				hipExternalMem
CUDA_EXTERNAL_MEMORY_DEDICATED	10.0				hipExternalMem
CUDA_EXTERNAL_MEMORY_HANDLE_DESC	10.0				hipExternalMem
CUDA_EXTERNAL_MEMORY_HANDLE_DESC_st	10.0				hipExternalMem
CUDA_EXTERNAL_MEMORY_HANDLE_DESC_v1	11.3				hipExternalMem
CUDA_EXTERNAL_MEMORY_MIPMAPPED_ARRAY_DESC	10.0				
CUDA_EXTERNAL_MEMORY_MIPMAPPED_ARRAY_DESC_st	10.0				
CUDA_EXTERNAL_MEMORY_MIPMAPPED_ARRAY_DESC_v1	11.3				
CUDA_EXTERNAL_SEMAPHORE_HANDLE_DESC	10.0				hipExternalSem
CUDA_EXTERNAL_SEMAPHORE_HANDLE_DESC_st	10.0				hipExternalSem
CUDA_EXTERNAL_SEMAPHORE_HANDLE_DESC_v1	11.3				hipExternalSem
CUDA_EXTERNAL_SEMAPHORE_SIGNAL_PARAMS	10.0				hipExternalSem

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CUDA	A	D	C	R	HIP
CUDA_EXTERNAL_SEMAPHORE_SIGNAL_PARAMS_st	10.0				hipExternalSema
CUDA_EXTERNAL_SEMAPHORE_SIGNAL_PARAMS_v1	11.3				hipExternalSema
CUDA_EXTERNAL_SEMAPHORE_SIGNAL_SKIP_NVSCIBUF_MEMSYNC	10.2				
CUDA_EXTERNAL_SEMAPHORE_WAIT_PARAMS	10.0				hipExternalSema
CUDA_EXTERNAL_SEMAPHORE_WAIT_PARAMS_st	10.0				hipExternalSema
CUDA_EXTERNAL_SEMAPHORE_WAIT_PARAMS_v1	11.3				hipExternalSema
CUDA_EXTERNAL_SEMAPHORE_WAIT_SKIP_NVSCIBUF_MEMSYNC	10.2				
CUDA_EXT_SEM_SIGNAL_NODE_PARAMS	11.2				hipExternalSema
CUDA_EXT_SEM_SIGNAL_NODE_PARAMS_st	11.2				hipExternalSema
CUDA_EXT_SEM_SIGNAL_NODE_PARAMS_v1	11.3				hipExternalSema
CUDA_EXT_SEM_SIGNAL_NODE_PARAMS_v2	12.2				hipExternalSema
CUDA_EXT_SEM_SIGNAL_NODE_PARAMS_v2_st	12.2				hipExternalSema
CUDA_EXT_SEM_WAIT_NODE_PARAMS	11.2				hipExternalSema
CUDA_EXT_SEM_WAIT_NODE_PARAMS_st	11.2				hipExternalSema
CUDA_EXT_SEM_WAIT_NODE_PARAMS_v1	11.3				hipExternalSema
CUDA_EXT_SEM_WAIT_NODE_PARAMS_v2	12.2				hipExternalSema
CUDA_EXT_SEM_WAIT_NODE_PARAMS_v2_st	12.2				hipExternalSema
CUDA_GRAPH_INSTANTIATE_CONDITIONAL_HANDLE_UNUSED	12.8				
CUDA_GRAPH_INSTANTIATE_ERROR	12.0				hipGraphInstant
CUDA_GRAPH_INSTANTIATE_FLAG_AUTO_FREE_ON_LAUNCH	11.4				hipGraphInstant
CUDA_GRAPH_INSTANTIATE_FLAG_DEVICE_LAUNCH	12.0				hipGraphInstant
CUDA_GRAPH_INSTANTIATE_FLAG_UPLOAD	12.0				hipGraphInstant
CUDA_GRAPH_INSTANTIATE_FLAG_USE_NODE_PRIORITY	11.7				hipGraphInstant
CUDA_GRAPH_INSTANTIATE_INVALID_STRUCTURE	12.0				hipGraphInstant
CUDA_GRAPH_INSTANTIATE_MULTIPLE_CTXS_NOT_SUPPORTED	12.0				hipGraphInstant
CUDA_GRAPH_INSTANTIATE_NODE_OPERATION_NOT_SUPPORTED	12.0				hipGraphInstant
CUDA_GRAPH_INSTANTIATE_PARAMS	12.0				hipGraphInstant
CUDA_GRAPH_INSTANTIATE_PARAMS_st	12.0				hipGraphInstant
CUDA_GRAPH_INSTANTIATE_SUCCESS	12.0				hipGraphInstant
CUDA_HOST_NODE_PARAMS	10.0				hipHostNodePara
CUDA_HOST_NODE_PARAMS_st	10.0				hipHostNodePara
CUDA_HOST_NODE_PARAMS_v1	11.3				hipHostNodePara
CUDA_HOST_NODE_PARAMS_v2	12.2				
CUDA_HOST_NODE_PARAMS_v2_st	12.2				
CUDA_KERNEL_NODE_PARAMS	10.0				hipKernelNodeP
CUDA_KERNEL_NODE_PARAMS_st	10.0				hipKernelNodeP
CUDA_KERNEL_NODE_PARAMS_v1	11.3				hipKernelNodeP
CUDA_KERNEL_NODE_PARAMS_v2	12.0				
CUDA_KERNEL_NODE_PARAMS_v2_st	12.0				
CUDA_KERNEL_NODE_PARAMS_v3	12.2				
CUDA_KERNEL_NODE_PARAMS_v3_st	12.2				
CUDA_LAUNCH_PARAMS	9.0				hipFunctionLaun
CUDA_LAUNCH_PARAMS_st	9.0				hipFunctionLaun
CUDA_LAUNCH_PARAMS_v1	11.3				hipFunctionLaun
CUDA_MEMCPY2D					hip_Memcpy2D
CUDA_MEMCPY2D_st					hip_Memcpy2D
CUDA_MEMCPY2D_v1					hip_Memcpy2D
CUDA_MEMCPY2D_v1_st					hip_Memcpy2D
CUDA_MEMCPY2D_v2	11.3				hip_Memcpy2D
CUDA_MEMCPY3D					HIP_MEMCPY3D

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CUDA	A	D	C	R	HIP
CUDA_MEMCPY3D_BATCH_OP	12.8				
CUDA_MEMCPY3D_BATCH_OP_st	12.8				
CUDA_MEMCPY3D_BATCH_OP_v1	12.8				
CUDA_MEMCPY3D_PEER					
CUDA_MEMCPY3D_PEER_st					
CUDA_MEMCPY3D_PEER_v1	11.3				
CUDA_MEMCPY3D_st					HIP_MEMCPY3D
CUDA_MEMCPY3D_v1					HIP_MEMCPY3D
CUDA_MEMCPY3D_v1_st					HIP_MEMCPY3D
CUDA_MEMCPY3D_v2	11.3				HIP_MEMCPY3D
CUDA_MEMCPY_NODE_PARAMS	12.2				hipMemcpyNodeP
CUDA_MEMCPY_NODE_PARAMS_st	12.2				hipMemcpyNodeP
CUDA_MEMSET_NODE_PARAMS	10.0				hipMemsetParam
CUDA_MEMSET_NODE_PARAMS_st	10.0				hipMemsetParam
CUDA_MEMSET_NODE_PARAMS_v1	11.3				hipMemsetParam
CUDA_MEMSET_NODE_PARAMS_v2	12.2				
CUDA_MEMSET_NODE_PARAMS_v2_st	12.2				
CUDA_MEM_ALLOC_NODE_PARAMS	11.4				hipMemAllocNod
CUDA_MEM_ALLOC_NODE_PARAMS_st	11.4			12.2	hipMemAllocNod
CUDA_MEM_ALLOC_NODE_PARAMS_v1	12.2				hipMemAllocNod
CUDA_MEM_ALLOC_NODE_PARAMS_v1_st	12.2				hipMemAllocNod
CUDA_MEM_ALLOC_NODE_PARAMS_v2	12.2				
CUDA_MEM_ALLOC_NODE_PARAMS_v2_st	12.2				
CUDA_MEM_FREE_NODE_PARAMS	12.2				hipMemFreeNode
CUDA_MEM_FREE_NODE_PARAMS_st	12.2				hipMemFreeNode
CUDA_NVSCISYNC_ATTR_SIGNAL	10.2				
CUDA_NVSCISYNC_ATTR_WAIT	10.2				
CUDA_POINTER_ATTRIBUTE_ACCESS_FLAGS	11.1				
CUDA_POINTER_ATTRIBUTE_ACCESS_FLAGS_enum	11.1				
CUDA_POINTER_ATTRIBUTE_P2P_TOKENS					
CUDA_POINTER_ATTRIBUTE_P2P_TOKENS_st					
CUDA_POINTER_ATTRIBUTE_P2P_TOKENS_v1	11.3				
CUDA_RESOURCE_DESC					HIP_RESOURCE_D
CUDA_RESOURCE_DESC_st					HIP_RESOURCE_D
CUDA_RESOURCE_DESC_v1	11.3				HIP_RESOURCE_D
CUDA_RESOURCE_VIEW_DESC					HIP_RESOURCE_V
CUDA_RESOURCE_VIEW_DESC_st					HIP_RESOURCE_V
CUDA_RESOURCE_VIEW_DESC_v1	11.3				HIP_RESOURCE_V
CUDA_SUCCESS					hipSuccess
CUDA_TEXTURE_DESC					HIP_TEXTURE_DES
CUDA_TEXTURE_DESC_st					HIP_TEXTURE_DES
CUDA_TEXTURE_DESC_v1	11.3				HIP_TEXTURE_DES
CUGLDeviceList					hipGLDeviceLis
CUGLDeviceList_enum					hipGLDeviceLis
CUGLmap_flags					
CUGLmap_flags_enum					
CUGPUDirectRDMAWritesOrdering	11.3				hipGPUDirectRD
CUGPUDirectRDMAWritesOrdering_enum	11.3				hipGPUDirectRD
CU_ACCESS_PROPERTY_NORMAL	11.0				hipAccessPrope
CU_ACCESS_PROPERTY_PERSISTING	11.0				hipAccessPrope

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CUDA	A	D	C	R	HIP
CU_ACCESS_PROPERTY_STREAMING	11.0				hipAccessPrope
CU_AD_FORMAT_AYUV	12.5				
CU_AD_FORMAT_BC1_UNORM	11.5				
CU_AD_FORMAT_BC1_UNORM_SRGB	11.5				
CU_AD_FORMAT_BC2_UNORM	11.5				
CU_AD_FORMAT_BC2_UNORM_SRGB	11.5				
CU_AD_FORMAT_BC3_UNORM	11.5				
CU_AD_FORMAT_BC3_UNORM_SRGB	11.5				
CU_AD_FORMAT_BC4_SNORM	11.5				
CU_AD_FORMAT_BC4_UNORM	11.5				
CU_AD_FORMAT_BC5_SNORM	11.5				
CU_AD_FORMAT_BC5_UNORM	11.5				
CU_AD_FORMAT_BC6H_SF16	11.5				
CU_AD_FORMAT_BC6H_UF16	11.5				
CU_AD_FORMAT_BC7_UNORM	11.5				
CU_AD_FORMAT_BC7_UNORM_SRGB	11.5				
CU_AD_FORMAT_FLOAT					HIP_AD_FORMAT_
CU_AD_FORMAT_HALF					HIP_AD_FORMAT_
CU_AD_FORMAT_MAX	12.5				
CU_AD_FORMAT_NV12	11.2				
CU_AD_FORMAT_NV16	12.5				
CU_AD_FORMAT_P010	12.5				
CU_AD_FORMAT_P016	12.5				
CU_AD_FORMAT_P210	12.5				
CU_AD_FORMAT_P216	12.5				
CU_AD_FORMAT_SIGNED_INT16					HIP_AD_FORMAT_S
CU_AD_FORMAT_SIGNED_INT32					HIP_AD_FORMAT_S
CU_AD_FORMAT_SIGNED_INT8					HIP_AD_FORMAT_S
CU_AD_FORMAT_SNORM_INT16X1	11.5				
CU_AD_FORMAT_SNORM_INT16X2	11.5				
CU_AD_FORMAT_SNORM_INT16X4	11.5				
CU_AD_FORMAT_SNORM_INT8X1	11.5				
CU_AD_FORMAT_SNORM_INT8X2	11.5				
CU_AD_FORMAT_SNORM_INT8X4	11.5				
CU_AD_FORMAT_UNORM_INT16X1	11.5				
CU_AD_FORMAT_UNORM_INT16X2	11.5				
CU_AD_FORMAT_UNORM_INT16X4	11.5				
CU_AD_FORMAT_UNORM_INT8X1	11.5				
CU_AD_FORMAT_UNORM_INT8X2	11.5				
CU_AD_FORMAT_UNORM_INT8X4	11.5				
CU_AD_FORMAT_UNORM_INT_101010_2	12.8				
CU_AD_FORMAT_UNSIGNED_INT16					HIP_AD_FORMAT_U
CU_AD_FORMAT_UNSIGNED_INT32					HIP_AD_FORMAT_U
CU_AD_FORMAT_UNSIGNED_INT8					HIP_AD_FORMAT_U
CU_AD_FORMAT_Y210	12.5				
CU_AD_FORMAT_Y216	12.5				
CU_AD_FORMAT_Y410	12.5				
CU_AD_FORMAT_Y416	12.5				
CU_AD_FORMAT_Y444_PLANAR10	12.5				
CU_AD_FORMAT_Y444_PLANAR8	12.5				

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CU_AD_FORMAT_YUV444_16bit_SemiPlanar	12.8				
CU_AD_FORMAT_YUV444_8bit_SemiPlanar	12.8				
CU_AD_FORMAT_YUY2	12.5				
CU_ARRAY_SPARSE_PROPERTIES_SINGLE_MIPTAIL	11.1				
CU_ARRAY_SPARSE_SUBRESOURCE_TYPE_MIPTAIL	11.1				hipArraySparse
CU_ARRAY_SPARSE_SUBRESOURCE_TYPE_SPARSE_LEVEL	11.1				hipArraySparse
CU_ASYNC_NOTIFICATION_TYPE_OVER_BUDGET	12.4				
CU_CLUSTER_SCHEDULING_POLICY_DEFAULT	11.8				
CU_CLUSTER_SCHEDULING_POLICY_LOAD_BALANCING	11.8				
CU_CLUSTER_SCHEDULING_POLICY_SPREAD	11.8				
CU_COMPUTEMODE_DEFAULT					hipComputeMode
CU_COMPUTEMODE_EXCLUSIVE				8.0	hipComputeMode
CU_COMPUTEMODE_EXCLUSIVE_PROCESS					hipComputeMode
CU_COMPUTEMODE_PROHIBITED					hipComputeMode
CU_COMPUTE_ACCELERATED_TARGET_BASE	12.0				
CU_COMPUTE_FAMILY_TARGET_BASE	12.9				
CU_COREDUMP_DEFAULT_FLAGS	12.5				
CU_COREDUMP_ENABLE_ON_EXCEPTION	12.1				
CU_COREDUMP_ENABLE_USER_TRIGGER	12.1				
CU_COREDUMP_FILE	12.1				
CU_COREDUMP_GENERATION_FLAGS	12.5				
CU_COREDUMP_LIGHTWEIGHT	12.1				
CU_COREDUMP_LIGHTWEIGHT_FLAGS	12.5				
CU_COREDUMP_MAX	12.1				
CU_COREDUMP_PIPE	12.1				
CU_COREDUMP_SKIP_ABORT	12.5				
CU_COREDUMP_SKIP_CONSTBANK_MEMORY	12.6				
CU_COREDUMP_SKIP_GLOBAL_MEMORY	12.5				
CU_COREDUMP_SKIP_LOCAL_MEMORY	12.5				
CU_COREDUMP_SKIP_NONRELOCATED_ELF_IMAGES	12.5				
CU_COREDUMP_SKIP_SHARED_MEMORY	12.5				
CU_COREDUMP_TRIGGER_HOST	12.1				
CU_CTX_BLOCKING_SYNC		4.0			hipDeviceSchedu
CU_CTX_COREDUMP_ENABLE	12.1				
CU_CTX_FLAGS_MASK					
CU_CTX_LMEM_RESIZE_TO_MAX					hipDeviceLmemR
CU_CTX_MAP_HOST					hipDeviceMapHo
CU_CTX_SCHED_AUTO					hipDeviceSchedu
CU_CTX_SCHED_BLOCKING_SYNC					hipDeviceSchedu
CU_CTX_SCHED_MASK					hipDeviceSchedu
CU_CTX_SCHED_SPIN					hipDeviceSchedu
CU_CTX_SCHED_YIELD					hipDeviceSchedu
CU_CTX_SYNC_MEMOPS	12.1				
CU_CTX_USER_COREDUMP_ENABLE	12.1				
CU_CUBEMAP_FACE_NEGATIVE_X					
CU_CUBEMAP_FACE_NEGATIVE_Y					
CU_CUBEMAP_FACE_NEGATIVE_Z					
CU_CUBEMAP_FACE_POSITIVE_X					
CU_CUBEMAP_FACE_POSITIVE_Y					
CU_CUBEMAP_FACE_POSITIVE_Z					

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CUDA	A	D	C	R	HIP
CU_D3D10_DEVICE_LIST_ALL					
CU_D3D10_DEVICE_LIST_CURRENT_FRAME					
CU_D3D10_DEVICE_LIST_NEXT_FRAME					
CU_D3D10_MAPRESOURCE_FLAGS_NONE					
CU_D3D10_MAPRESOURCE_FLAGS_READONLY					
CU_D3D10_MAPRESOURCE_FLAGS_WRITEDISCARD					
CU_D3D10_REGISTER_FLAGS_ARRAY					
CU_D3D10_REGISTER_FLAGS_NONE					
CU_D3D11_DEVICE_LIST_ALL					
CU_D3D11_DEVICE_LIST_CURRENT_FRAME					
CU_D3D11_DEVICE_LIST_NEXT_FRAME					
CU_D3D9_DEVICE_LIST_ALL					
CU_D3D9_DEVICE_LIST_CURRENT_FRAME					
CU_D3D9_DEVICE_LIST_NEXT_FRAME					
CU_D3D9_MAPRESOURCE_FLAGS_NONE					
CU_D3D9_MAPRESOURCE_FLAGS_READONLY					
CU_D3D9_MAPRESOURCE_FLAGS_WRITEDISCARD					
CU_D3D9_REGISTER_FLAGS_ARRAY					
CU_D3D9_REGISTER_FLAGS_NONE					
CU_DEVICE_ATTRIBUTE_ASYNC_ENGINE_COUNT					hipDeviceAttril
CU_DEVICE_ATTRIBUTE_CAN_FLUSH_REMOTE_WRITES	9.2				
CU_DEVICE_ATTRIBUTE_CAN_MAP_HOST_MEMORY					hipDeviceAttril
CU_DEVICE_ATTRIBUTE_CAN_TEX2D_GATHER		5.0			
CU_DEVICE_ATTRIBUTE_CAN_USE_64_BIT_STREAM_MEM_OPS	9.0				
CU_DEVICE_ATTRIBUTE_CAN_USE_64_BIT_STREAM_MEM_OPS_V1	12.0	12.0			
CU_DEVICE_ATTRIBUTE_CAN_USE_64_BIT_STREAM_MEM_OPS_V2	11.7			12.0	
CU_DEVICE_ATTRIBUTE_CAN_USE_HOST_POINTER_FOR_REGISTERED_MEM	9.0				hipDeviceAttril
CU_DEVICE_ATTRIBUTE_CAN_USE_STREAM_MEM_OPS	9.0			12.0	
CU_DEVICE_ATTRIBUTE_CAN_USE_STREAM_MEM_OPS_V1	12.0	12.0			
CU_DEVICE_ATTRIBUTE_CAN_USE_STREAM_WAIT_VALUE_NOR	9.0				hipDeviceAttril
CU_DEVICE_ATTRIBUTE_CAN_USE_STREAM_WAIT_VALUE_NOR_V1	12.0	12.0			hipDeviceAttril
CU_DEVICE_ATTRIBUTE_CAN_USE_STREAM_WAIT_VALUE_NOR_V2	11.7			12.0	
CU_DEVICE_ATTRIBUTE_CLOCK_RATE					hipDeviceAttril
CU_DEVICE_ATTRIBUTE_CLUSTER_LAUNCH	11.8				
CU_DEVICE_ATTRIBUTE_COMPUTE_CAPABILITY_MAJOR					hipDeviceAttril
CU_DEVICE_ATTRIBUTE_COMPUTE_CAPABILITY_MINOR					hipDeviceAttril
CU_DEVICE_ATTRIBUTE_COMPUTE_MODE					hipDeviceAttril
CU_DEVICE_ATTRIBUTE_COMPUTE_PREEMPTION_SUPPORTED	8.0				hipDeviceAttril
CU_DEVICE_ATTRIBUTE_CONCURRENT_KERNELS					hipDeviceAttril
CU_DEVICE_ATTRIBUTE_CONCURRENT_MANAGED_ACCESS	8.0				hipDeviceAttril
CU_DEVICE_ATTRIBUTE_COOPERATIVE_LAUNCH	9.0				hipDeviceAttril
CU_DEVICE_ATTRIBUTE_COOPERATIVE_MULTI_DEVICE_LAUNCH	9.0				hipDeviceAttril
CU_DEVICE_ATTRIBUTE_D3D12_CIG_SUPPORTED	12.5				
CU_DEVICE_ATTRIBUTE_DEFERRED_MAPPING_CUDA_ARRAY_SUPPORTED	11.6				
CU_DEVICE_ATTRIBUTE_DIRECT_MANAGED_MEM_ACCESS_FROM_HOST	9.2				hipDeviceAttril
CU_DEVICE_ATTRIBUTE_DMA_BUF_SUPPORTED	11.7				
CU_DEVICE_ATTRIBUTE_ECC_ENABLED					hipDeviceAttril
CU_DEVICE_ATTRIBUTE_GENERIC_COMPRESSION_SUPPORTED	11.0				
CU_DEVICE_ATTRIBUTE_GLOBAL_L1_CACHE_SUPPORTED					hipDeviceAttril
CU_DEVICE_ATTRIBUTE_GLOBAL_MEMORY_BUS_WIDTH					hipDeviceAttril

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CUDA	A	D	C	R	HIP
CU_DEVICE_ATTRIBUTE_GPU_DIRECT_RDMA_FLUSH_WRITES_OPTIONS	11.3				
CU_DEVICE_ATTRIBUTE_GPU_DIRECT_RDMA_SUPPORTED	11.3				
CU_DEVICE_ATTRIBUTE_GPU_DIRECT_RDMA_WITH_CUDA_VMM_SUPPORTED	11.0				
CU_DEVICE_ATTRIBUTE_GPU_DIRECT_RDMA_WRITES_ORDERING	11.3				
CU_DEVICE_ATTRIBUTE_GPU_OVERLAP		5.0			hipDeviceAttri
CU_DEVICE_ATTRIBUTE_GPU_PCI_DEVICE_ID	12.8				
CU_DEVICE_ATTRIBUTE_GPU_PCI_SUBSYSTEM_ID	12.8				
CU_DEVICE_ATTRIBUTE_HANDLE_TYPE_FABRIC_SUPPORTED	12.3				
CU_DEVICE_ATTRIBUTE_HANDLE_TYPE_POSIX_FILE_DESCRIPTOR_SUPPORTED	10.2				
CU_DEVICE_ATTRIBUTE_HANDLE_TYPE_WIN32_HANDLE_SUPPORTED	10.2				
CU_DEVICE_ATTRIBUTE_HANDLE_TYPE_WIN32_KMT_HANDLE_SUPPORTED	10.2				
CU_DEVICE_ATTRIBUTE_HOST_NATIVE_ATOMIC_SUPPORTED	8.0				hipDeviceAttri
CU_DEVICE_ATTRIBUTE_HOST_NUMA_ID	12.2				
CU_DEVICE_ATTRIBUTE_HOST_NUMA_MEMORY_POOLS_SUPPORTED	12.9				
CU_DEVICE_ATTRIBUTE_HOST_NUMA_MULTINODE_IPC_SUPPORTED	12.8				
CU_DEVICE_ATTRIBUTE_HOST_NUMA_VIRTUAL_MEMORY_MANAGEMENT_SUPPORTED	12.9				
CU_DEVICE_ATTRIBUTE_HOST_REGISTER_SUPPORTED	9.2				hipDeviceAttri
CU_DEVICE_ATTRIBUTE_INTEGRATED					hipDeviceAttri
CU_DEVICE_ATTRIBUTE_IPC_EVENT_SUPPORTED	12.0				
CU_DEVICE_ATTRIBUTE_KERNEL_EXEC_TIMEOUT					hipDeviceAttri
CU_DEVICE_ATTRIBUTE_L2_CACHE_SIZE					hipDeviceAttri
CU_DEVICE_ATTRIBUTE_LOCAL_L1_CACHE_SUPPORTED					hipDeviceAttri
CU_DEVICE_ATTRIBUTE_MANAGED_MEMORY					hipDeviceAttri
CU_DEVICE_ATTRIBUTE_MAX					
CU_DEVICE_ATTRIBUTE_MAXIMUM_SURFACE1D_LAYERED_LAYERS					
CU_DEVICE_ATTRIBUTE_MAXIMUM_SURFACE1D_LAYERED_WIDTH					hipDeviceAttri
CU_DEVICE_ATTRIBUTE_MAXIMUM_SURFACE1D_WIDTH					hipDeviceAttri
CU_DEVICE_ATTRIBUTE_MAXIMUM_SURFACE2D_HEIGHT					hipDeviceAttri
CU_DEVICE_ATTRIBUTE_MAXIMUM_SURFACE2D_LAYERED_HEIGHT					hipDeviceAttri
CU_DEVICE_ATTRIBUTE_MAXIMUM_SURFACE2D_LAYERED_LAYERS					
CU_DEVICE_ATTRIBUTE_MAXIMUM_SURFACE2D_LAYERED_WIDTH					hipDeviceAttri
CU_DEVICE_ATTRIBUTE_MAXIMUM_SURFACE2D_WIDTH					hipDeviceAttri
CU_DEVICE_ATTRIBUTE_MAXIMUM_SURFACE3D_DEPTH					hipDeviceAttri
CU_DEVICE_ATTRIBUTE_MAXIMUM_SURFACE3D_HEIGHT					hipDeviceAttri
CU_DEVICE_ATTRIBUTE_MAXIMUM_SURFACE3D_WIDTH					hipDeviceAttri
CU_DEVICE_ATTRIBUTE_MAXIMUM_SURFACECUBEMAP_LAYERED_LAYERS					
CU_DEVICE_ATTRIBUTE_MAXIMUM_SURFACECUBEMAP_LAYERED_WIDTH					hipDeviceAttri
CU_DEVICE_ATTRIBUTE_MAXIMUM_SURFACECUBEMAP_WIDTH					hipDeviceAttri
CU_DEVICE_ATTRIBUTE_MAXIMUM_TEXTURE1D_LAYERED_LAYERS					
CU_DEVICE_ATTRIBUTE_MAXIMUM_TEXTURE1D_LAYERED_WIDTH					hipDeviceAttri
CU_DEVICE_ATTRIBUTE_MAXIMUM_TEXTURE1D_LINEAR_WIDTH		11.2			hipDeviceAttri
CU_DEVICE_ATTRIBUTE_MAXIMUM_TEXTURE1D_MIPMAPPED_WIDTH					hipDeviceAttri
CU_DEVICE_ATTRIBUTE_MAXIMUM_TEXTURE1D_WIDTH					hipDeviceAttri
CU_DEVICE_ATTRIBUTE_MAXIMUM_TEXTURE2D_ARRAY_HEIGHT		5.0			hipDeviceAttri
CU_DEVICE_ATTRIBUTE_MAXIMUM_TEXTURE2D_ARRAY_NUMSLICES		5.0			
CU_DEVICE_ATTRIBUTE_MAXIMUM_TEXTURE2D_ARRAY_WIDTH		5.0			hipDeviceAttri
CU_DEVICE_ATTRIBUTE_MAXIMUM_TEXTURE2D_GATHER_HEIGHT					hipDeviceAttri
CU_DEVICE_ATTRIBUTE_MAXIMUM_TEXTURE2D_GATHER_WIDTH					hipDeviceAttri
CU_DEVICE_ATTRIBUTE_MAXIMUM_TEXTURE2D_HEIGHT					hipDeviceAttri
CU_DEVICE_ATTRIBUTE_MAXIMUM_TEXTURE2D_LAYERED_HEIGHT					hipDeviceAttri

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CU_DEVICE_ATTRIBUTE_MAXIMUM_TEXTURE2D_LAYERED_LAYERS					
CU_DEVICE_ATTRIBUTE_MAXIMUM_TEXTURE2D_LAYERED_WIDTH					hipDeviceAttril
CU_DEVICE_ATTRIBUTE_MAXIMUM_TEXTURE2D_LINEAR_HEIGHT					hipDeviceAttril
CU_DEVICE_ATTRIBUTE_MAXIMUM_TEXTURE2D_LINEAR_PITCH					hipDeviceAttril
CU_DEVICE_ATTRIBUTE_MAXIMUM_TEXTURE2D_LINEAR_WIDTH					hipDeviceAttril
CU_DEVICE_ATTRIBUTE_MAXIMUM_TEXTURE2D_MIPMAPPED_HEIGHT					hipDeviceAttril
CU_DEVICE_ATTRIBUTE_MAXIMUM_TEXTURE2D_MIPMAPPED_WIDTH					hipDeviceAttril
CU_DEVICE_ATTRIBUTE_MAXIMUM_TEXTURE2D_WIDTH					hipDeviceAttril
CU_DEVICE_ATTRIBUTE_MAXIMUM_TEXTURE3D_DEPTH					hipDeviceAttril
CU_DEVICE_ATTRIBUTE_MAXIMUM_TEXTURE3D_DEPTH_ALTERNATE					hipDeviceAttril
CU_DEVICE_ATTRIBUTE_MAXIMUM_TEXTURE3D_HEIGHT					hipDeviceAttril
CU_DEVICE_ATTRIBUTE_MAXIMUM_TEXTURE3D_HEIGHT_ALTERNATE					hipDeviceAttril
CU_DEVICE_ATTRIBUTE_MAXIMUM_TEXTURE3D_WIDTH					hipDeviceAttril
CU_DEVICE_ATTRIBUTE_MAXIMUM_TEXTURE3D_WIDTH_ALTERNATE					hipDeviceAttril
CU_DEVICE_ATTRIBUTE_MAXIMUM_TEXTURECUBEMAP_LAYERED_LAYERS					
CU_DEVICE_ATTRIBUTE_MAXIMUM_TEXTURECUBEMAP_LAYERED_WIDTH					hipDeviceAttril
CU_DEVICE_ATTRIBUTE_MAXIMUM_TEXTURECUBEMAP_WIDTH					hipDeviceAttril
CU_DEVICE_ATTRIBUTE_MAX_ACCESS_POLICY_WINDOW_SIZE	11.0				
CU_DEVICE_ATTRIBUTE_MAX_BLOCKS_PER_MULTIPROCESSOR	11.0				hipDeviceAttril
CU_DEVICE_ATTRIBUTE_MAX_BLOCK_DIM_X					hipDeviceAttril
CU_DEVICE_ATTRIBUTE_MAX_BLOCK_DIM_Y					hipDeviceAttril
CU_DEVICE_ATTRIBUTE_MAX_BLOCK_DIM_Z					hipDeviceAttril
CU_DEVICE_ATTRIBUTE_MAX_GRID_DIM_X					hipDeviceAttril
CU_DEVICE_ATTRIBUTE_MAX_GRID_DIM_Y					hipDeviceAttril
CU_DEVICE_ATTRIBUTE_MAX_GRID_DIM_Z					hipDeviceAttril
CU_DEVICE_ATTRIBUTE_MAX_PERSISTING_L2_CACHE_SIZE	11.0				
CU_DEVICE_ATTRIBUTE_MAX_PITCH					hipDeviceAttril
CU_DEVICE_ATTRIBUTE_MAX_REGISTERS_PER_BLOCK					hipDeviceAttril
CU_DEVICE_ATTRIBUTE_MAX_REGISTERS_PER_MULTIPROCESSOR					hipDeviceAttril
CU_DEVICE_ATTRIBUTE_MAX_SHARED_MEMORY_PER_BLOCK					hipDeviceAttril
CU_DEVICE_ATTRIBUTE_MAX_SHARED_MEMORY_PER_BLOCK_OPTIN	9.0				hipDeviceAttril
CU_DEVICE_ATTRIBUTE_MAX_SHARED_MEMORY_PER_MULTIPROCESSOR					hipDeviceAttril
CU_DEVICE_ATTRIBUTE_MAX_THREADS_PER_BLOCK					hipDeviceAttril
CU_DEVICE_ATTRIBUTE_MAX_THREADS_PER_MULTIPROCESSOR					hipDeviceAttril
CU_DEVICE_ATTRIBUTE_MEMORY_CLOCK_RATE					hipDeviceAttril
CU_DEVICE_ATTRIBUTE_MEMORY_POOLS_SUPPORTED	11.2				hipDeviceAttril
CU_DEVICE_ATTRIBUTE_MEMPOOL_SUPPORTED_HANDLE_TYPES	11.3				
CU_DEVICE_ATTRIBUTE_MEM_DECOMPRESS_ALGORITHM_MASK	12.8				
CU_DEVICE_ATTRIBUTE_MEM_DECOMPRESS_MAXIMUM_LENGTH	12.8				
CU_DEVICE_ATTRIBUTE_MEM_SYNC_DOMAIN_COUNT	12.0				
CU_DEVICE_ATTRIBUTE_MPS_ENABLED	12.3				
CU_DEVICE_ATTRIBUTE_MULTICAST_SUPPORTED	12.1				
CU_DEVICE_ATTRIBUTE_MULTIPROCESSOR_COUNT					hipDeviceAttril
CU_DEVICE_ATTRIBUTE_MULTI_GPU_BOARD					hipDeviceAttril
CU_DEVICE_ATTRIBUTE_MULTI_GPU_BOARD_GROUP_ID					hipDeviceAttril
CU_DEVICE_ATTRIBUTE_NUMA_CONFIG	12.2				
CU_DEVICE_ATTRIBUTE_NUMA_ID	12.2				
CU_DEVICE_ATTRIBUTE_PAGEABLE_MEMORY_ACCESS	8.0				hipDeviceAttril
CU_DEVICE_ATTRIBUTE_PAGEABLE_MEMORY_ACCESS_USES_HOST_PAGE_TABLES	9.2				hipDeviceAttril
CU_DEVICE_ATTRIBUTE_PCI_BUS_ID					hipDeviceAttril

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CUDA	A	D	C	R	HIP
CU_DEVICE_ATTRIBUTE_PCI_DEVICE_ID					hipDeviceAttri
CU_DEVICE_ATTRIBUTE_PCI_DOMAIN_ID					hipDeviceAttri
CU_DEVICE_ATTRIBUTE_READ_ONLY_HOST_REGISTER_SUPPORTED	11.1				
CU_DEVICE_ATTRIBUTE_REGISTERS_PER_BLOCK		5.0			hipDeviceAttri
CU_DEVICE_ATTRIBUTE_RESERVED_SHARED_MEMORY_PER_BLOCK	11.0				
CU_DEVICE_ATTRIBUTE_SHARED_MEMORY_PER_BLOCK		5.0			hipDeviceAttri
CU_DEVICE_ATTRIBUTE_SINGLE_TO_DOUBLE_PRECISION_PERF_RATIO	8.0				hipDeviceAttri
CU_DEVICE_ATTRIBUTE_SPARSE_CUDA_ARRAY_SUPPORTED	11.1				
CU_DEVICE_ATTRIBUTE_STREAM_PRIORITIES_SUPPORTED					hipDeviceAttri
CU_DEVICE_ATTRIBUTE_SURFACE_ALIGNMENT					hipDeviceAttri
CU_DEVICE_ATTRIBUTE_TCC_DRIVER					hipDeviceAttri
CU_DEVICE_ATTRIBUTE_TENSOR_MAP_ACCESS_SUPPORTED	12.0				
CU_DEVICE_ATTRIBUTE_TEXTURE_ALIGNMENT					hipDeviceAttri
CU_DEVICE_ATTRIBUTE_TEXTURE_PITCH_ALIGNMENT					hipDeviceAttri
CU_DEVICE_ATTRIBUTE_TIMELINE_SEMAPHORE_INTEROP_SUPPORTED	11.2				
CU_DEVICE_ATTRIBUTE_TOTAL_CONSTANT_MEMORY					hipDeviceAttri
CU_DEVICE_ATTRIBUTE_UNIFIED_ADDRESSING					hipDeviceAttri
CU_DEVICE_ATTRIBUTE_UNIFIED_FUNCTION_POINTERS	12.0				
CU_DEVICE_ATTRIBUTE_VIRTUAL_ADDRESS_MANAGEMENT_SUPPORTED	10.2	11.2			
CU_DEVICE_ATTRIBUTE_VIRTUAL_MEMORY_MANAGEMENT_SUPPORTED	11.2				hipDeviceAttri
CU_DEVICE_ATTRIBUTE_VULKAN_CIG_SUPPORTED	12.9				
CU_DEVICE_ATTRIBUTE_WARP_SIZE					hipDeviceAttri
CU_DEVICE_CPU	8.0				hipCpuDeviceId
CU_DEVICE_INVALID	8.0				hipInvalidDevi
CU_DEVICE_NUMA_CONFIG_NONE	12.2				
CU_DEVICE_NUMA_CONFIG_NUMA_NODE	12.2				
CU_DEVICE_P2P_ATTRIBUTE_ACCESS_ACCESS_SUPPORTED	10.1	10.1			hipDevP2PAttrH
CU_DEVICE_P2P_ATTRIBUTE_ACCESS_SUPPORTED	8.0				hipDevP2PAttrA
CU_DEVICE_P2P_ATTRIBUTE_ARRAY_ACCESS_ACCESS_SUPPORTED	9.2	10.0		10.1	hipDevP2PAttrH
CU_DEVICE_P2P_ATTRIBUTE_CUDA_ARRAY_ACCESS_SUPPORTED	10.0				hipDevP2PAttrH
CU_DEVICE_P2P_ATTRIBUTE_NATIVE_ATOMIC_SUPPORTED	8.0				hipDevP2PAttrN
CU_DEVICE_P2P_ATTRIBUTE_PERFORMANCE_RANK	8.0				hipDevP2PAttrP
CU_DEV_RESOURCE_TYPE_INVALID	12.4				
CU_DEV_RESOURCE_TYPE_MAX	12.4				
CU_DEV_RESOURCE_TYPE_SM	12.4				
CU_DEV_SM_RESOURCE_SPLIT_IGNORE_SM_COSCHEDULING	12.5				
CU_DEV_SM_RESOURCE_SPLIT_MAX_POTENTIAL_CLUSTER_SIZE	12.5				
CU_EGL_COLOR_FORMAT_A	9.1				
CU_EGL_COLOR_FORMAT_ABGR	9.1				
CU_EGL_COLOR_FORMAT_ARGB	9.0				
CU_EGL_COLOR_FORMAT_AYUV	9.1				
CU_EGL_COLOR_FORMAT_AYUV_ER	9.1				
CU_EGL_COLOR_FORMAT_BAYER10_BGGR	9.1				
CU_EGL_COLOR_FORMAT_BAYER10_GBRG	9.1				
CU_EGL_COLOR_FORMAT_BAYER10_GRBG	9.1				
CU_EGL_COLOR_FORMAT_BAYER10_RGGB	9.1				
CU_EGL_COLOR_FORMAT_BAYER12_BGGR	9.1				
CU_EGL_COLOR_FORMAT_BAYER12_GBRG	9.1				
CU_EGL_COLOR_FORMAT_BAYER12_GRBG	9.1				
CU_EGL_COLOR_FORMAT_BAYER12_RGGB	9.1				

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CUDA	A	D	C	R	HIP
CU_EGL_COLOR_FORMAT_BAYER14_BGGR	9.1				
CU_EGL_COLOR_FORMAT_BAYER14_GBRG	9.1				
CU_EGL_COLOR_FORMAT_BAYER14_GRBG	9.1				
CU_EGL_COLOR_FORMAT_BAYER14_RGGB	9.1				
CU_EGL_COLOR_FORMAT_BAYER20_BGGR	9.1				
CU_EGL_COLOR_FORMAT_BAYER20_GBRG	9.1				
CU_EGL_COLOR_FORMAT_BAYER20_GRBG	9.1				
CU_EGL_COLOR_FORMAT_BAYER20_RGGB	9.1				
CU_EGL_COLOR_FORMAT_BAYER_BGGR	9.1				
CU_EGL_COLOR_FORMAT_BAYER_GBRG	9.1				
CU_EGL_COLOR_FORMAT_BAYER_GRBG	9.1				
CU_EGL_COLOR_FORMAT_BAYER_ISP_BGGR	9.2				
CU_EGL_COLOR_FORMAT_BAYER_ISP_GBRG	9.2				
CU_EGL_COLOR_FORMAT_BAYER_ISP_GRBG	9.2				
CU_EGL_COLOR_FORMAT_BAYER_ISP_RGGB	9.2				
CU_EGL_COLOR_FORMAT_BAYER_RGGB	9.1				
CU_EGL_COLOR_FORMAT_BGR	9.0				
CU_EGL_COLOR_FORMAT_BGRA	9.1				
CU_EGL_COLOR_FORMAT_L	9.0				
CU_EGL_COLOR_FORMAT_MAX	9.0				
CU_EGL_COLOR_FORMAT_R	9.0				
CU_EGL_COLOR_FORMAT_RG	9.1				
CU_EGL_COLOR_FORMAT_RGB	9.0				
CU_EGL_COLOR_FORMAT_RGBA					
CU_EGL_COLOR_FORMAT_UYVY_422	9.0				
CU_EGL_COLOR_FORMAT_UYVY_ER	9.1				
CU_EGL_COLOR_FORMAT_VYUY_ER	9.1				
CU_EGL_COLOR_FORMAT_Y10V10U10_420_SEMIPLANAR	9.1				
CU_EGL_COLOR_FORMAT_Y10V10U10_444_SEMIPLANAR	9.1				
CU_EGL_COLOR_FORMAT_Y12V12U12_420_SEMIPLANAR	9.1				
CU_EGL_COLOR_FORMAT_Y12V12U12_444_SEMIPLANAR	9.1				
CU_EGL_COLOR_FORMAT_YUV420_PLANAR	9.0				
CU_EGL_COLOR_FORMAT_YUV420_PLANAR_ER	9.1				
CU_EGL_COLOR_FORMAT_YUV420_SEMIPLANAR	9.0				
CU_EGL_COLOR_FORMAT_YUV420_SEMIPLANAR_ER	9.1				
CU_EGL_COLOR_FORMAT_YUV422_PLANAR	9.0				
CU_EGL_COLOR_FORMAT_YUV422_PLANAR_ER	9.1				
CU_EGL_COLOR_FORMAT_YUV422_SEMIPLANAR	9.0				
CU_EGL_COLOR_FORMAT_YUV422_SEMIPLANAR_ER	9.1				
CU_EGL_COLOR_FORMAT_YUV444_PLANAR	9.0				
CU_EGL_COLOR_FORMAT_YUV444_PLANAR_ER	9.1				
CU_EGL_COLOR_FORMAT_YUV444_SEMIPLANAR	9.0				
CU_EGL_COLOR_FORMAT_YUV444_SEMIPLANAR_ER	9.1				
CU_EGL_COLOR_FORMAT_YUVA_ER	9.1				
CU_EGL_COLOR_FORMAT_YUV_ER	9.1				
CU_EGL_COLOR_FORMAT_YUYV_422	9.0				
CU_EGL_COLOR_FORMAT_YUYV_ER	9.1				
CU_EGL_COLOR_FORMAT_YVU420_PLANAR	9.1				
CU_EGL_COLOR_FORMAT_YVU420_PLANAR_ER	9.1				
CU_EGL_COLOR_FORMAT_YVU420_SEMIPLANAR	9.1				

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CUDA	A	D	C	R	HIP
CU_EGL_COLOR_FORMAT_YVU420_SEMIPLANAR_ER	9.1				
CU_EGL_COLOR_FORMAT_YVU422_PLANAR	9.1				
CU_EGL_COLOR_FORMAT_YVU422_PLANAR_ER	9.1				
CU_EGL_COLOR_FORMAT_YVU422_SEMIPLANAR	9.1				
CU_EGL_COLOR_FORMAT_YVU422_SEMIPLANAR_ER	9.1				
CU_EGL_COLOR_FORMAT_YVU444_PLANAR	9.1				
CU_EGL_COLOR_FORMAT_YVU444_PLANAR_ER	9.1				
CU_EGL_COLOR_FORMAT_YVU444_SEMIPLANAR	9.1				
CU_EGL_COLOR_FORMAT_YVU444_SEMIPLANAR_ER	9.1				
CU_EGL_COLOR_FORMAT_YVYU_ER	9.1				
CU_EGL_FRAME_TYPE_ARRAY	9.0				
CU_EGL_FRAME_TYPE_PITCH	9.0				
CU_EGL_RESOURCE_LOCATION_SYSMEM	9.0				
CU_EGL_RESOURCE_LOCATION_VIDMEM	9.0				
CU_EVENT_BLOCKING_SYNC					hipEventBlockin
CU_EVENT_DEFAULT					hipEventDefaul
CU_EVENT_DISABLE_TIMING					hipEventDisable
CU_EVENT_INTERPROCESS					hipEventInterpr
CU_EVENT_RECORD_DEFAULT	11.1				hipEventRecordD
CU_EVENT_RECORD_EXTERNAL	11.1				hipEventRecordD
CU_EVENT_SCHED_AUTO	11.8				
CU_EVENT_SCHED_BLOCKING_SYNC	11.8				
CU_EVENT_SCHED_SPIN	11.8				
CU_EVENT_SCHED_YIELD	11.8				
CU_EVENT_WAIT_DEFAULT	11.1				
CU_EVENT_WAIT_EXTERNAL	11.1				
CU_EXEC_AFFINITY_TYPE_MAX	11.4				
CU_EXEC_AFFINITY_TYPE_SM_COUNT	11.4				
CU_EXTERNAL_MEMORY_HANDLE_TYPE_D3D11_RESOURCE	10.2				hipExternalMemo
CU_EXTERNAL_MEMORY_HANDLE_TYPE_D3D11_RESOURCE_KMT	10.2				hipExternalMemo
CU_EXTERNAL_MEMORY_HANDLE_TYPE_D3D12_HEAP	10.0				hipExternalMemo
CU_EXTERNAL_MEMORY_HANDLE_TYPE_D3D12_RESOURCE	10.0				hipExternalMemo
CU_EXTERNAL_MEMORY_HANDLE_TYPE_NVSCIBUF	10.2				
CU_EXTERNAL_MEMORY_HANDLE_TYPE_OPAQUE_FD	10.0				hipExternalMemo
CU_EXTERNAL_MEMORY_HANDLE_TYPE_OPAQUE_WIN32	10.0				hipExternalMemo
CU_EXTERNAL_MEMORY_HANDLE_TYPE_OPAQUE_WIN32_KMT	10.0				hipExternalMemo
CU_EXTERNAL_SEMAPHORE_HANDLE_TYPE_D3D11_FENCE	10.2				
CU_EXTERNAL_SEMAPHORE_HANDLE_TYPE_D3D11_KEYED_MUTEX	10.2				
CU_EXTERNAL_SEMAPHORE_HANDLE_TYPE_D3D11_KEYED_MUTEX_KMT	10.2				
CU_EXTERNAL_SEMAPHORE_HANDLE_TYPE_D3D12_FENCE	10.0				hipExternalSema
CU_EXTERNAL_SEMAPHORE_HANDLE_TYPE_NVSCISYNC	10.2				
CU_EXTERNAL_SEMAPHORE_HANDLE_TYPE_OPAQUE_FD	10.0				hipExternalSema
CU_EXTERNAL_SEMAPHORE_HANDLE_TYPE_OPAQUE_WIN32	10.0				hipExternalSema
CU_EXTERNAL_SEMAPHORE_HANDLE_TYPE_OPAQUE_WIN32_KMT	10.0				hipExternalSema
CU_EXTERNAL_SEMAPHORE_HANDLE_TYPE_TIMELINE_SEMAPHORE_FD	11.2				
CU_EXTERNAL_SEMAPHORE_HANDLE_TYPE_TIMELINE_SEMAPHORE_WIN32	11.2				
CU_FLUSH_GPU_DIRECT_RDMA_WRITES_OPTION_HOST	11.3				hipFlushGPUDire
CU_FLUSH_GPU_DIRECT_RDMA_WRITES_OPTION_MEMOPS	11.3				hipFlushGPUDire
CU_FLUSH_GPU_DIRECT_RDMA_WRITES_TARGET_CURRENT_CTX	11.3				
CU_FLUSH_GPU_DIRECT_RDMA_WRITES_TO_ALL_DEVICES	11.3				

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CUDA	A	D	C	R	HIP
CU_FLUSH_GPU_DIRECT_RDMA_WRITES_TO_OWNER	11.3				
CU_FUNCTION_LOADING_STATE_LOADED	12.4				
CU_FUNCTION_LOADING_STATE_MAX	12.4				
CU_FUNCTION_LOADING_STATE_UNLOADED	12.4				
CU_FUNC_ATTRIBUTE_BINARY_VERSION					HIP_FUNC_ATTRI
CU_FUNC_ATTRIBUTE_CACHE_MODE_CA					HIP_FUNC_ATTRI
CU_FUNC_ATTRIBUTE_CLUSTER_SCHEDULING_POLICY_PREFERENCE	11.8				
CU_FUNC_ATTRIBUTE_CLUSTER_SIZE_MUST_BE_SET	11.8				
CU_FUNC_ATTRIBUTE_CONST_SIZE_BYTES					HIP_FUNC_ATTRI
CU_FUNC_ATTRIBUTE_LOCAL_SIZE_BYTES					HIP_FUNC_ATTRI
CU_FUNC_ATTRIBUTE_MAX					HIP_FUNC_ATTRI
CU_FUNC_ATTRIBUTE_MAX_DYNAMIC_SHARED_SIZE_BYTES	9.0				HIP_FUNC_ATTRI
CU_FUNC_ATTRIBUTE_MAX_THREADS_PER_BLOCK					HIP_FUNC_ATTRI
CU_FUNC_ATTRIBUTE_NON_PORTABLE_CLUSTER_SIZE_ALLOWED	11.8				
CU_FUNC_ATTRIBUTE_NUM_REGS					HIP_FUNC_ATTRI
CU_FUNC_ATTRIBUTE_PREFERRED_SHARED_MEMORY_CARVEOUT	9.0				HIP_FUNC_ATTRI
CU_FUNC_ATTRIBUTE_PTX_VERSION					HIP_FUNC_ATTRI
CU_FUNC_ATTRIBUTE_REQUIRED_CLUSTER_DEPTH	11.8				
CU_FUNC_ATTRIBUTE_REQUIRED_CLUSTER_HEIGHT	11.8				
CU_FUNC_ATTRIBUTE_REQUIRED_CLUSTER_WIDTH	11.8				
CU_FUNC_ATTRIBUTE_SHARED_SIZE_BYTES					HIP_FUNC_ATTRI
CU_FUNC_CACHE_PREFER_EQUAL					hipFuncCachePr
CU_FUNC_CACHE_PREFER_L1					hipFuncCachePr
CU_FUNC_CACHE_PREFER_NONE					hipFuncCachePr
CU_FUNC_CACHE_PREFER_SHARED					hipFuncCachePr
CU_GET_PROC_ADDRESS_DEFAULT	11.3				
CU_GET_PROC_ADDRESS_LEGACY_STREAM	11.3				
CU_GET_PROC_ADDRESS_PER_THREAD_DEFAULT_STREAM	11.3				
CU_GET_PROC_ADDRESS_SUCCESS	12.0				HIP_GET_PROC_A
CU_GET_PROC_ADDRESS_SYMBOL_NOT_FOUND	12.0				HIP_GET_PROC_A
CU_GET_PROC_ADDRESS_VERSION_NOT_SUFFICIENT	12.0				HIP_GET_PROC_A
CU_GL_DEVICE_LIST_ALL					hipGLDeviceLis
CU_GL_DEVICE_LIST_CURRENT_FRAME					hipGLDeviceLis
CU_GL_DEVICE_LIST_NEXT_FRAME					hipGLDeviceLis
CU_GL_MAP_RESOURCE_FLAGS_NONE					
CU_GL_MAP_RESOURCE_FLAGS_READ_ONLY					
CU_GL_MAP_RESOURCE_FLAGS_WRITE_DISCARD					
CU_GPU_DIRECT_RDMA_WRITES_ORDERING_ALL_DEVICES	11.3				hipGPUDirectRD
CU_GPU_DIRECT_RDMA_WRITES_ORDERING_NONE	11.3				hipGPUDirectRD
CU_GPU_DIRECT_RDMA_WRITES_ORDERING_OWNER	11.3				hipGPUDirectRD
CU_GRAPHICS_MAP_RESOURCE_FLAGS_NONE					
CU_GRAPHICS_MAP_RESOURCE_FLAGS_READ_ONLY					
CU_GRAPHICS_MAP_RESOURCE_FLAGS_WRITE_DISCARD					
CU_GRAPHICS_REGISTER_FLAGS_NONE					hipGraphicsRegi
CU_GRAPHICS_REGISTER_FLAGS_READ_ONLY					hipGraphicsRegi
CU_GRAPHICS_REGISTER_FLAGS_SURFACE_LDST					hipGraphicsRegi
CU_GRAPHICS_REGISTER_FLAGS_TEXTURE_GATHER					hipGraphicsRegi
CU_GRAPHICS_REGISTER_FLAGS_WRITE_DISCARD					hipGraphicsRegi
CU_GRAPH_CHILD_GRAPH_OWNERSHIP_CLONE	12.9				
CU_GRAPH_CHILD_GRAPH_OWNERSHIP_MOVE	12.9				

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CUDA	A	D	C	R	HIP
CU_GRAPH_COND_ASSIGN_DEFAULT	12.3				
CU_GRAPH_COND_TYPE_IF	12.3				
CU_GRAPH_COND_TYPE_SWITCH	12.8				
CU_GRAPH_COND_TYPE_WHILE	12.3				
CU_GRAPH_DEBUG_DOT_FLAGS_BATCH_MEM_OP_NODE_PARAMS	11.7				
CU_GRAPH_DEBUG_DOT_FLAGS_CONDITIONAL_NODE_PARAMS	12.3				
CU_GRAPH_DEBUG_DOT_FLAGS_EVENT_NODE_PARAMS	11.3				hipGraphDebugDo
CU_GRAPH_DEBUG_DOT_FLAGS_EXTRA_TOPO_INFO	12.0				
CU_GRAPH_DEBUG_DOT_FLAGS_EXT_SEMAS_SIGNAL_NODE_PARAMS	11.3				hipGraphDebugDo
CU_GRAPH_DEBUG_DOT_FLAGS_EXT_SEMAS_WAIT_NODE_PARAMS	11.3				hipGraphDebugDo
CU_GRAPH_DEBUG_DOT_FLAGS_HANDLES	11.3				hipGraphDebugDo
CU_GRAPH_DEBUG_DOT_FLAGS_HOST_NODE_PARAMS	11.3				hipGraphDebugDo
CU_GRAPH_DEBUG_DOT_FLAGS_KERNEL_NODE_ATTRIBUTES	11.3				hipGraphDebugDo
CU_GRAPH_DEBUG_DOT_FLAGS_KERNEL_NODE_PARAMS	11.3				hipGraphDebugDo
CU_GRAPH_DEBUG_DOT_FLAGS_MEMCPY_NODE_PARAMS	11.3				hipGraphDebugDo
CU_GRAPH_DEBUG_DOT_FLAGS_MEMSET_NODE_PARAMS	11.3				hipGraphDebugDo
CU_GRAPH_DEBUG_DOT_FLAGS_MEM_ALLOC_NODE_PARAMS	11.4				
CU_GRAPH_DEBUG_DOT_FLAGS_MEM_FREE_NODE_PARAMS	11.4				
CU_GRAPH_DEBUG_DOT_FLAGS_RUNTIME_TYPES	11.3				hipGraphDebugDo
CU_GRAPH_DEBUG_DOT_FLAGS_VERBOSE	11.3				hipGraphDebugDo
CU_GRAPH_DEPENDENCY_TYPE_DEFAULT	12.3				hipGraphDepende
CU_GRAPH_DEPENDENCY_TYPE_PROGRAMMATIC	12.3				hipGraphDepende
CU_GRAPH_EXEC_UPDATE_ERROR	10.2				hipGraphExecUpd
CU_GRAPH_EXEC_UPDATE_ERROR_ATTRIBUTES_CHANGED	11.6				
CU_GRAPH_EXEC_UPDATE_ERROR_FUNCTION_CHANGED	10.2				hipGraphExecUpd
CU_GRAPH_EXEC_UPDATE_ERROR_NODE_TYPE_CHANGED	10.2				hipGraphExecUpd
CU_GRAPH_EXEC_UPDATE_ERROR_NOT_SUPPORTED	10.2				hipGraphExecUpd
CU_GRAPH_EXEC_UPDATE_ERROR_PARAMETERS_CHANGED	10.2				hipGraphExecUpd
CU_GRAPH_EXEC_UPDATE_ERROR_TOPOLOGY_CHANGED	10.2				hipGraphExecUpd
CU_GRAPH_EXEC_UPDATE_ERROR_UNSUPPORTED_FUNCTION_CHANGE	11.2				hipGraphExecUpd
CU_GRAPH_EXEC_UPDATE_SUCCESS	10.2				hipGraphExecUpd
CU_GRAPH_KERNEL_NODE_PORT_DEFAULT	12.3				hipGraphKernelN
CU_GRAPH_KERNEL_NODE_PORT_LAUNCH_ORDER	12.3				hipGraphKernelN
CU_GRAPH_KERNEL_NODE_PORT_PROGRAMMATIC	12.3				hipGraphKernelN
CU_GRAPH_MEM_ATTR_RESERVED_MEM_CURRENT	11.4				hipGraphMemAttr
CU_GRAPH_MEM_ATTR_RESERVED_MEM_HIGH	11.4				hipGraphMemAttr
CU_GRAPH_MEM_ATTR_USED_MEM_CURRENT	11.4				hipGraphMemAttr
CU_GRAPH_MEM_ATTR_USED_MEM_HIGH	11.4				hipGraphMemAttr
CU_GRAPH_NODE_TYPE_BATCH_MEM_OP	11.7				hipGraphNodeTyp
CU_GRAPH_NODE_TYPE_CONDITIONAL	12.3				
CU_GRAPH_NODE_TYPE_COUNT	10.0			11.0	hipGraphNodeTyp
CU_GRAPH_NODE_TYPE_EMPTY	10.0				hipGraphNodeTyp
CU_GRAPH_NODE_TYPE_EVENT_RECORD	11.1				hipGraphNodeTyp
CU_GRAPH_NODE_TYPE_EXT_SEMAS_SIGNAL	11.2				hipGraphNodeTyp
CU_GRAPH_NODE_TYPE_EXT_SEMAS_WAIT	11.2				hipGraphNodeTyp
CU_GRAPH_NODE_TYPE_GRAPH	10.0				hipGraphNodeTyp
CU_GRAPH_NODE_TYPE_HOST	10.0				hipGraphNodeTyp
CU_GRAPH_NODE_TYPE_KERNEL	10.0				hipGraphNodeTyp
CU_GRAPH_NODE_TYPE_MEMCPY	10.0				hipGraphNodeTyp
CU_GRAPH_NODE_TYPE_MEMSET	10.0				hipGraphNodeTyp

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CU_GRAPH_NODE_TYPE_MEM_ALLOC	11.4				hipGraphNodeTyp
CU_GRAPH_NODE_TYPE_MEM_FREE	11.4				hipGraphNodeTyp
CU_GRAPH_NODE_TYPE_WAIT_EVENT	11.1				hipGraphNodeTyp
CU_GRAPH_USER_OBJECT_MOVE	11.3				hipGraphUserObj
CU_GREEN_CTX_DEFAULT_STREAM	12.4				
CU_IPC_HANDLE_SIZE					HIP_IPC_HANDLE_
CU_IPC_MEM_LAZY_ENABLE_PEER_ACCESS					hipIpcMemLazyEn
CU_JIT_CACHE_MODE					hipJitOptionCac
CU_JIT_CACHE_OPTION_CA					
CU_JIT_CACHE_OPTION_CG					
CU_JIT_CACHE_OPTION_NONE					
CU_JIT_ERROR_LOG_BUFFER					hipJitOptionErr
CU_JIT_ERROR_LOG_BUFFER_SIZE_BYTES					hipJitOptionErr
CU_JIT_FALLBACK_STRATEGY					hipJitOptionFal
CU_JIT_FAST_COMPILE	8.0				hipJitOptionFas
CU_JIT_FMA	11.4	12.0			hipJitOptionFma
CU_JIT_FTZ	11.4	12.0			hipJitOptionFtz
CU_JIT_GENERATE_DEBUG_INFO					hipJitOptionGen
CU_JIT_GENERATE_LINE_INFO					hipJitOptionGen
CU_JIT_GLOBAL_SYMBOL_ADDRESSES	10.0				hipJitOptionGlo
CU_JIT_GLOBAL_SYMBOL_COUNT	10.0				hipJitOptionGlo
CU_JIT_GLOBAL_SYMBOL_NAMES	10.0				hipJitOptionGlo
CU_JIT_INFO_LOG_BUFFER					hipJitOptionIn
CU_JIT_INFO_LOG_BUFFER_SIZE_BYTES					hipJitOptionIn
CU_JIT_INPUT_CUBIN					hipJitInputCubi
CU_JIT_INPUT_FATBINARY					hipJitInputFatB
CU_JIT_INPUT_LIBRARY					hipJitInputLibr
CU_JIT_INPUT_NVVM	11.4	12.0			hipJitInputNvvm
CU_JIT_INPUT_OBJECT					hipJitInputObje
CU_JIT_INPUT_PTX					hipJitInputPtx
CU_JIT_LOG_VERBOSE					hipJitOptionLog
CU_JIT_LTO	11.4	12.0			hipJitOptionLto
CU_JIT_MAX_REGISTERS					hipJitOptionMax
CU_JIT_MAX_THREADS_PER_BLOCK	12.4				hipJitOptionMax
CU_JIT_MIN_CTA_PER_SM	12.3				hipJitOptionMin
CU_JIT_NEW_SM3X_OPT	8.0				hipJitOptionSm
CU_JIT_NUM_INPUT_TYPES					hipJitNumLegacy
CU_JIT_NUM_OPTIONS					hipJitOptionNum
CU_JIT_OPTIMIZATION_LEVEL					hipJitOptionOpt
CU_JIT_OPTIMIZE_UNUSED_DEVICE_VARIABLES	11.7	12.0			
CU_JIT_OVERRIDE_DIRECTIVE_VALUES	12.4				hipJitOptionOve
CU_JIT_POSITION_INDEPENDENT_CODE	12.0				hipJitOptionPos
CU_JIT_PREC_DIV	11.4	12.0			hipJitOptionPre
CU_JIT_PREC_SQRT	11.4	12.0			hipJitOptionPre
CU_JIT_REFERENCED_KERNEL_COUNT	11.7	12.0			
CU_JIT_REFERENCED_KERNEL_NAMES	11.7	12.0			
CU_JIT_REFERENCED_VARIABLE_COUNT	11.7	12.0			
CU_JIT_REFERENCED_VARIABLE_NAMES	11.7	12.0			
CU_JIT_TARGET					hipJitOptionTar
CU_JIT_TARGET_FROM_CUCONTEXT					hipJitOptionTar

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CUDA	A	D	C	R	HIP
CU_JIT_THREADS_PER_BLOCK					hipJitOptionTh
CU_JIT_WALL_TIME					hipJitOptionWa
CU_KERNEL_NODE_ATTRIBUTE_ACCESS_POLICY_WINDOW	11.0				hipKernelNodeA
CU_KERNEL_NODE_ATTRIBUTE_CLUSTER_DIMENSION	11.8				
CU_KERNEL_NODE_ATTRIBUTE_CLUSTER_SCHEDULING_POLICY_PREFERENCE	11.8				
CU_KERNEL_NODE_ATTRIBUTE_COOPERATIVE	11.0				hipKernelNodeA
CU_KERNEL_NODE_ATTRIBUTE_DEVICE_UPDATABLE_KERNEL_NODE	12.4				
CU_KERNEL_NODE_ATTRIBUTE_MEM_SYNC_DOMAIN	12.0				
CU_KERNEL_NODE_ATTRIBUTE_MEM_SYNC_DOMAIN_MAP	12.0				
CU_KERNEL_NODE_ATTRIBUTE_PREFERRED_CLUSTER_DIMENSION	12.8				
CU_KERNEL_NODE_ATTRIBUTE_PREFERRED_SHARED_MEMORY_CARVEOUT	12.5				
CU_KERNEL_NODE_ATTRIBUTE_PRIORITY	11.7				hipKernelNodeA
CU_LAUNCH_ATTRIBUTE_ACCESS_POLICY_WINDOW	11.8				hipLaunchAttri
CU_LAUNCH_ATTRIBUTE_CLUSTER_DIMENSION	11.8				
CU_LAUNCH_ATTRIBUTE_CLUSTER_SCHEDULING_POLICY_PREFERENCE	11.8				
CU_LAUNCH_ATTRIBUTE_COOPERATIVE	11.8				hipLaunchAttri
CU_LAUNCH_ATTRIBUTE_DEVICE_UPDATABLE_KERNEL_NODE	12.4				
CU_LAUNCH_ATTRIBUTE_IGNORE	11.8				
CU_LAUNCH_ATTRIBUTE_LAUNCH_COMPLETION_EVENT	12.3				
CU_LAUNCH_ATTRIBUTE_MAX	12.1				
CU_LAUNCH_ATTRIBUTE_MEM_SYNC_DOMAIN	12.0				
CU_LAUNCH_ATTRIBUTE_MEM_SYNC_DOMAIN_MAP	12.0				
CU_LAUNCH_ATTRIBUTE_PREFERRED_CLUSTER_DIMENSION	12.8				
CU_LAUNCH_ATTRIBUTE_PREFERRED_SHARED_MEMORY_CARVEOUT	12.5				
CU_LAUNCH_ATTRIBUTE_PRIORITY	11.8				hipLaunchAttri
CU_LAUNCH_ATTRIBUTE_PROGRAMMATIC_EVENT	11.8				
CU_LAUNCH_ATTRIBUTE_PROGRAMMATIC_STREAM_SERIALIZATION	11.8				
CU_LAUNCH_ATTRIBUTE_SYNCHRONIZATION_POLICY	11.8				
CU_LAUNCH_KERNEL_REQUIRED_BLOCK_DIM	12.9				
CU_LAUNCH_MEM_SYNC_DOMAIN_DEFAULT	12.0				
CU_LAUNCH_MEM_SYNC_DOMAIN_REMOTE	12.0				
CU_LAUNCH_PARAM_BUFFER_POINTER					HIP_LAUNCH_PARA
CU_LAUNCH_PARAM_BUFFER_POINTER_AS_INT	11.7				
CU_LAUNCH_PARAM_BUFFER_SIZE					HIP_LAUNCH_PARA
CU_LAUNCH_PARAM_BUFFER_SIZE_AS_INT	11.7				
CU_LAUNCH_PARAM_END					HIP_LAUNCH_PARA
CU_LAUNCH_PARAM_END_AS_INT	11.7				
CU_LIBRARY_BINARY_IS_PRESERVED	12.0				
CU_LIBRARY_HOST_UNIVERSAL_FUNCTION_AND_DATA_TABLE	12.0				
CU_LIBRARY_NUM_OPTIONS	12.0				
CU_LIMIT_CIG_ENABLED	12.5				
CU_LIMIT_CIG_SHMEM_FALLBACK_ENABLED	12.5				
CU_LIMIT_DEV_RUNTIME_PENDING_LAUNCH_COUNT					
CU_LIMIT_DEV_RUNTIME_SYNC_DEPTH					
CU_LIMIT_MALLOC_HEAP_SIZE					hipLimitMalloc
CU_LIMIT_MAX					
CU_LIMIT_MAX_L2_FETCH_GRANULARITY	10.0				
CU_LIMIT_PERSISTING_L2_CACHE_SIZE	11.0				
CU_LIMIT_PRINTF_FIFO_SIZE					hipLimitPrintf
CU_LIMIT_SHMEM_SIZE	12.5				

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CU_LIMIT_STACK_SIZE					hipLimitStackSi
CU_LOG_LEVEL_ERROR	12.9				
CU_LOG_LEVEL_WARNING	12.9				
CU_MEMCPY_FLAG_DEFAULT	12.8				
CU_MEMCPY_FLAG_PREFER_OVERLAP_WITH_COMPUTE	12.8				
CU_MEMCPY_OPERAND_TYPE_ARRAY	12.8				
CU_MEMCPY_OPERAND_TYPE_MAX	12.8				
CU_MEMCPY_OPERAND_TYPE_POINTER	12.8				
CU_MEMCPY_SRC_ACCESS_ORDER_ANY	12.8				
CU_MEMCPY_SRC_ACCESS_ORDER_DURING_API_CALL	12.8				
CU_MEMCPY_SRC_ACCESS_ORDER_INVALID	12.8				
CU_MEMCPY_SRC_ACCESS_ORDER_MAX	12.8				
CU_MEMCPY_SRC_ACCESS_ORDER_STREAM	12.8				
CU_MEMHOSTALLOC_DEVICEMAP					hipHostMallocMa
CU_MEMHOSTALLOC_PORTABLE					hipHostMallocPo
CU_MEMHOSTALLOC_WRITECOMBINED					hipHostMallocWr
CU_MEMHOSTREGISTER_DEVICEMAP					hipHostRegister
CU_MEMHOSTREGISTER_IOMEMORY	7.5				hipHostRegister
CU_MEMHOSTREGISTER_PORTABLE					hipHostRegister
CU_MEMHOSTREGISTER_READ_ONLY	11.1				hipHostRegister
CU_MEMORYTYPE_ARRAY					hipMemoryTypeAr
CU_MEMORYTYPE_DEVICE					hipMemoryTypeDe
CU_MEMORYTYPE_HOST					hipMemoryTypeHo
CU_MEMORYTYPE_UNIFIED					hipMemoryTypeUn
CU_MEMPOOL_ATTR_RELEASE_THRESHOLD	11.2				hipMemPoolAttrR
CU_MEMPOOL_ATTR_RESERVED_MEM_CURRENT	11.3				hipMemPoolAttrR
CU_MEMPOOL_ATTR_RESERVED_MEM_HIGH	11.3				hipMemPoolAttrR
CU_MEMPOOL_ATTR_REUSE_ALLOW_INTERNAL_DEPENDENCIES	11.2				hipMemPoolReuse
CU_MEMPOOL_ATTR_REUSE_ALLOW_OPPORTUNISTIC	11.2				hipMemPoolReuse
CU_MEMPOOL_ATTR_REUSE_FOLLOW_EVENT_DEPENDENCIES	11.2				hipMemPoolReuse
CU_MEMPOOL_ATTR_USED_MEM_CURRENT	11.3				hipMemPoolAttrU
CU_MEMPOOL_ATTR_USED_MEM_HIGH	11.3				hipMemPoolAttrU
CU_MEM_ACCESS_FLAGS_PROT_MAX	10.2				
CU_MEM_ACCESS_FLAGS_PROT_NONE	10.2				hipMemAccessFla
CU_MEM_ACCESS_FLAGS_PROT_READ	10.2				hipMemAccessFla
CU_MEM_ACCESS_FLAGS_PROT_READWRITE	10.2				hipMemAccessFla
CU_MEM_ADVISE_SET_ACCESSED_BY	8.0				hipMemAdviseSet
CU_MEM_ADVISE_SET_PREFERRED_LOCATION	8.0				hipMemAdviseSet
CU_MEM_ADVISE_SET_READ_MOSTLY	8.0				hipMemAdviseSet
CU_MEM_ADVISE_UNSET_ACCESSED_BY	8.0				hipMemAdviseUns
CU_MEM_ADVISE_UNSET_PREFERRED_LOCATION	8.0				hipMemAdviseUns
CU_MEM_ADVISE_UNSET_READ_MOSTLY	8.0				hipMemAdviseUns
CU_MEM_ALLOCATION_TYPE_INVALID	10.2				hipMemAllocati
CU_MEM_ALLOCATION_TYPE_MAX	10.2				hipMemAllocati
CU_MEM_ALLOCATION_TYPE_PINNED	10.2				hipMemAllocati
CU_MEM_ALLOC_GRANULARITY_MINIMUM	10.2				hipMemAllocati
CU_MEM_ALLOC_GRANULARITY_RECOMMENDED	10.2				hipMemAllocati
CU_MEM_ATTACH_GLOBAL					hipMemAttachGl
CU_MEM_ATTACH_HOST					hipMemAttachHo
CU_MEM_ATTACH_SINGLE					hipMemAttachSi

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CU_MEM_CREATE_USAGE_HW_DECOMPRESS	12.8				
CU_MEM_CREATE_USAGE_TILE_POOL	11.1				
CU_MEM_DECOMPRESS_ALGORITHM_DEFLATE	12.8				
CU_MEM_DECOMPRESS_ALGORITHM_LZ4	12.9				
CU_MEM_DECOMPRESS_ALGORITHM_SNAPPY	12.8				
CU_MEM_DECOMPRESS_UNSUPPORTED	12.8				
CU_MEM_HANDLE_TYPE_FABRIC	12.3				
CU_MEM_HANDLE_TYPE_GENERIC	11.1				hipMemHandleTyp
CU_MEM_HANDLE_TYPE_MAX	10.2				
CU_MEM_HANDLE_TYPE_NONE	11.2				hipMemHandleTyp
CU_MEM_HANDLE_TYPE_POSIX_FILE_DESCRIPTOR	10.2				hipMemHandleTyp
CU_MEM_HANDLE_TYPE_WIN32	10.2				hipMemHandleTyp
CU_MEM_HANDLE_TYPE_WIN32_KMT	10.2				hipMemHandleTyp
CU_MEM_LOCATION_TYPE_DEVICE	10.2				hipMemLocationT
CU_MEM_LOCATION_TYPE_HOST	12.2				
CU_MEM_LOCATION_TYPE_HOST_NUMA	12.2				
CU_MEM_LOCATION_TYPE_HOST_NUMA_CURRENT	12.2				
CU_MEM_LOCATION_TYPE_INVALID	10.2				hipMemLocationT
CU_MEM_LOCATION_TYPE_MAX	10.2				
CU_MEM_OPERATION_TYPE_MAP	11.1				hipMemOperation
CU_MEM_OPERATION_TYPE_UNMAP	11.1				hipMemOperation
CU_MEM_POOL_CREATE_USAGE_HW_DECOMPRESS	12.8				
CU_MEM_RANGE_ATTRIBUTE_ACCESSED_BY	8.0				hipMemRangeAttr
CU_MEM_RANGE_ATTRIBUTE_LAST_PREFETCH_LOCATION	8.0				hipMemRangeAttr
CU_MEM_RANGE_ATTRIBUTE_LAST_PREFETCH_LOCATION_ID	12.2				
CU_MEM_RANGE_ATTRIBUTE_LAST_PREFETCH_LOCATION_TYPE	12.2				
CU_MEM_RANGE_ATTRIBUTE_PREFERRED_LOCATION	8.0				hipMemRangeAttr
CU_MEM_RANGE_ATTRIBUTE_PREFERRED_LOCATION_ID	12.2				
CU_MEM_RANGE_ATTRIBUTE_PREFERRED_LOCATION_TYPE	12.2				
CU_MEM_RANGE_ATTRIBUTE_READ_MOSTLY	8.0				hipMemRangeAttr
CU_MEM_RANGE_FLAG_DMA_BUF_MAPPING_TYPE_PCIE	12.8				hipMemRangeFlag
CU_MEM_RANGE_HANDLE_TYPE_DMA_BUF_FD	11.7				hipMemRangeHand
CU_MEM_RANGE_HANDLE_TYPE_MAX	11.7				hipMemRangeHand
CU_MODULE_EAGER_LOADING	11.7				
CU_MODULE_LAZY_LOADING	11.7				
CU_MULTICAST_GRANULARITY_MINIMUM	12.1				
CU_MULTICAST_GRANULARITY_RECOMMENDED	12.1				
CU_OCCUPANCY_DEFAULT					hipOccupancyDe
CU_OCCUPANCY_DISABLE_CACHING_OVERRIDE					hipOccupancyDi
CU_PARAM_TR_DEFAULT					
CU_POINTER_ATTRIBUTE_ACCESS_FLAGS	11.1				HIP_POINTER_ATT
CU_POINTER_ATTRIBUTE_ACCESS_FLAG_NONE	11.1				
CU_POINTER_ATTRIBUTE_ACCESS_FLAG_READ	11.1				
CU_POINTER_ATTRIBUTE_ACCESS_FLAG_READWRITE	11.1				
CU_POINTER_ATTRIBUTE_ALLOWED_HANDLE_TYPES	10.2				HIP_POINTER_ATT
CU_POINTER_ATTRIBUTE_BUFFER_ID					HIP_POINTER_ATT
CU_POINTER_ATTRIBUTE_CONTEXT					HIP_POINTER_ATT
CU_POINTER_ATTRIBUTE_DEVICE_ORDINAL	9.2				HIP_POINTER_ATT
CU_POINTER_ATTRIBUTE_DEVICE_POINTER					HIP_POINTER_ATT
CU_POINTER_ATTRIBUTE_HOST_POINTER					HIP_POINTER_ATT

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CUDA	A	D	C	R	HIP
CU_POINTER_ATTRIBUTE_IS_GPU_DIRECT_RDMA_CAPABLE	11.0				HIP_POINTER_AT
CU_POINTER_ATTRIBUTE_IS_HW_DECOMPRESS_CAPABLE	12.8				
CU_POINTER_ATTRIBUTE_IS_LEGACY_CUDA_IPC_CAPABLE	10.2				HIP_POINTER_AT
CU_POINTER_ATTRIBUTE_IS_MANAGED					HIP_POINTER_AT
CU_POINTER_ATTRIBUTE_MAPPED	10.2				HIP_POINTER_AT
CU_POINTER_ATTRIBUTE_MAPPING_BASE_ADDR	11.7				
CU_POINTER_ATTRIBUTE_MAPPING_SIZE	11.7				
CU_POINTER_ATTRIBUTE_MEMORY_BLOCK_ID	11.7				
CU_POINTER_ATTRIBUTE_MEMORY_TYPE					HIP_POINTER_AT
CU_POINTER_ATTRIBUTE_MEMPOOL_HANDLE	11.3				HIP_POINTER_AT
CU_POINTER_ATTRIBUTE_P2P_TOKENS					HIP_POINTER_AT
CU_POINTER_ATTRIBUTE_RANGE_SIZE	10.2				HIP_POINTER_AT
CU_POINTER_ATTRIBUTE_RANGE_START_ADDR	10.2				HIP_POINTER_AT
CU_POINTER_ATTRIBUTE_SYNC_MEMOPS					HIP_POINTER_AT
CU_PREFER_BINARY					
CU_PREFER_PTX					
CU_PROCESS_STATE_CHECKPOINTED	12.8				
CU_PROCESS_STATE_FAILED	12.8				
CU_PROCESS_STATE_LOCKED	12.8				
CU_PROCESS_STATE_RUNNING	12.8				
CU_RESOURCE_TYPE_ARRAY					HIP_RESOURCE_T
CU_RESOURCE_TYPE_LINEAR					HIP_RESOURCE_T
CU_RESOURCE_TYPE_MIPMAPPED_ARRAY					HIP_RESOURCE_T
CU_RESOURCE_TYPE_PITCH2D					HIP_RESOURCE_T
CU_RES_VIEW_FORMAT_FLOAT_1X16					HIP_RES_VIEW_F
CU_RES_VIEW_FORMAT_FLOAT_1X32					HIP_RES_VIEW_F
CU_RES_VIEW_FORMAT_FLOAT_2X16					HIP_RES_VIEW_F
CU_RES_VIEW_FORMAT_FLOAT_2X32					HIP_RES_VIEW_F
CU_RES_VIEW_FORMAT_FLOAT_4X16					HIP_RES_VIEW_F
CU_RES_VIEW_FORMAT_FLOAT_4X32					HIP_RES_VIEW_F
CU_RES_VIEW_FORMAT_NONE					HIP_RES_VIEW_F
CU_RES_VIEW_FORMAT_SIGNED_BC4					HIP_RES_VIEW_F
CU_RES_VIEW_FORMAT_SIGNED_BC5					HIP_RES_VIEW_F
CU_RES_VIEW_FORMAT_SIGNED_BC6H					HIP_RES_VIEW_F
CU_RES_VIEW_FORMAT_SINT_1X16					HIP_RES_VIEW_F
CU_RES_VIEW_FORMAT_SINT_1X32					HIP_RES_VIEW_F
CU_RES_VIEW_FORMAT_SINT_1X8					HIP_RES_VIEW_F
CU_RES_VIEW_FORMAT_SINT_2X16					HIP_RES_VIEW_F
CU_RES_VIEW_FORMAT_SINT_2X32					HIP_RES_VIEW_F
CU_RES_VIEW_FORMAT_SINT_2X8					HIP_RES_VIEW_F
CU_RES_VIEW_FORMAT_SINT_4X16					HIP_RES_VIEW_F
CU_RES_VIEW_FORMAT_SINT_4X32					HIP_RES_VIEW_F
CU_RES_VIEW_FORMAT_SINT_4X8					HIP_RES_VIEW_F
CU_RES_VIEW_FORMAT_UINT_1X16					HIP_RES_VIEW_F
CU_RES_VIEW_FORMAT_UINT_1X32					HIP_RES_VIEW_F
CU_RES_VIEW_FORMAT_UINT_1X8					HIP_RES_VIEW_F
CU_RES_VIEW_FORMAT_UINT_2X16					HIP_RES_VIEW_F
CU_RES_VIEW_FORMAT_UINT_2X32					HIP_RES_VIEW_F
CU_RES_VIEW_FORMAT_UINT_2X8					HIP_RES_VIEW_F
CU_RES_VIEW_FORMAT_UINT_4X16					HIP_RES_VIEW_F

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CUDA	A	D	C	R	HIP
CU_RES_VIEW_FORMAT_UINT_4X32					HIP_RES_VIEW_FO
CU_RES_VIEW_FORMAT_UINT_4X8					HIP_RES_VIEW_FO
CU_RES_VIEW_FORMAT_UNSIGNED_BC1					HIP_RES_VIEW_FO
CU_RES_VIEW_FORMAT_UNSIGNED_BC2					HIP_RES_VIEW_FO
CU_RES_VIEW_FORMAT_UNSIGNED_BC3					HIP_RES_VIEW_FO
CU_RES_VIEW_FORMAT_UNSIGNED_BC4					HIP_RES_VIEW_FO
CU_RES_VIEW_FORMAT_UNSIGNED_BC5					HIP_RES_VIEW_FO
CU_RES_VIEW_FORMAT_UNSIGNED_BC6H					HIP_RES_VIEW_FO
CU_RES_VIEW_FORMAT_UNSIGNED_BC7					HIP_RES_VIEW_FO
CU_SHAREDMEM_CARVEOUT_DEFAULT	9.0				
CU_SHAREDMEM_CARVEOUT_MAX_L1	9.0				
CU_SHAREDMEM_CARVEOUT_MAX_SHARED	9.0				
CU_SHARED_MEM_CONFIG_DEFAULT_BANK_SIZE					hipSharedMemBan
CU_SHARED_MEM_CONFIG_EIGHT_BYTE_BANK_SIZE					hipSharedMemBan
CU_SHARED_MEM_CONFIG_FOUR_BYTE_BANK_SIZE					hipSharedMemBan
CU_STREAM_ADD_CAPTURE_DEPENDENCIES	11.3				hipStreamAddCap
CU_STREAM_ATTRIBUTE_ACCESS_POLICY_WINDOW	11.0				
CU_STREAM_ATTRIBUTE_MEM_SYNC_DOMAIN	12.0				
CU_STREAM_ATTRIBUTE_MEM_SYNC_DOMAIN_MAP	12.0				
CU_STREAM_ATTRIBUTE_PRIORITY	12.0				
CU_STREAM_ATTRIBUTE_SYNCHRONIZATION_POLICY	11.0				
CU_STREAM_CAPTURE_MODE_GLOBAL	10.1				hipStreamCaptur
CU_STREAM_CAPTURE_MODE_RELAXED	10.1				hipStreamCaptur
CU_STREAM_CAPTURE_MODE_THREAD_LOCAL	10.1				hipStreamCaptur
CU_STREAM_CAPTURE_STATUS_ACTIVE	10.0				hipStreamCaptur
CU_STREAM_CAPTURE_STATUS_INVALIDATED	10.0				hipStreamCaptur
CU_STREAM_CAPTURE_STATUS_NONE	10.0				hipStreamCaptur
CU_STREAM_DEFAULT					hipStreamDefaul
CU_STREAM_LEGACY					hipStreamLegacy
CU_STREAM_MEMORY_BARRIER_TYPE_GPU	11.7				
CU_STREAM_MEMORY_BARRIER_TYPE_SYS	11.7				
CU_STREAM_MEM_OP_BARRIER	11.7				hipStreamMemOpB
CU_STREAM_MEM_OP_FLUSH_REMOTE_WRITES	8.0				hipStreamMemOpF
CU_STREAM_MEM_OP_WAIT_VALUE_32	8.0				hipStreamMemOpW
CU_STREAM_MEM_OP_WAIT_VALUE_64	9.0				hipStreamMemOpW
CU_STREAM_MEM_OP_WRITE_VALUE_32	8.0				hipStreamMemOpW
CU_STREAM_MEM_OP_WRITE_VALUE_64	9.0				hipStreamMemOpW
CU_STREAM_NON_BLOCKING					hipStreamNonBlo
CU_STREAM_PER_THREAD					hipStreamPerThr
CU_STREAM_SET_CAPTURE_DEPENDENCIES	11.3				hipStreamSetCap
CU_STREAM_WAIT_VALUE_AND	8.0				hipStreamWaitVa
CU_STREAM_WAIT_VALUE_EQ	8.0				hipStreamWaitVa
CU_STREAM_WAIT_VALUE_FLUSH	8.0				
CU_STREAM_WAIT_VALUE_GEQ	8.0				hipStreamWaitVa
CU_STREAM_WAIT_VALUE_NOR	9.0				hipStreamWaitVa
CU_STREAM_WRITE_VALUE_DEFAULT	8.0				
CU_STREAM_WRITE_VALUE_NO_MEMORY_BARRIER	8.0				
CU_SYNC_POLICY_AUTO	11.0				
CU_SYNC_POLICY_BLOCKING_SYNC	11.0				
CU_SYNC_POLICY_SPIN	11.0				

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CUDA	A	D	C	R	HIP
CU_SYNC_POLICY_YIELD	11.0				
CU_TARGET_COMPUTE_10				9.0	
CU_TARGET_COMPUTE_100	12.8				
CU_TARGET_COMPUTE_100A	12.8				
CU_TARGET_COMPUTE_100F	12.9				
CU_TARGET_COMPUTE_101	12.8				
CU_TARGET_COMPUTE_101A	12.8				
CU_TARGET_COMPUTE_101F	12.9				
CU_TARGET_COMPUTE_103	12.9				
CU_TARGET_COMPUTE_103A	12.9				
CU_TARGET_COMPUTE_103F	12.9				
CU_TARGET_COMPUTE_11				9.0	
CU_TARGET_COMPUTE_12				9.0	
CU_TARGET_COMPUTE_120	12.8				
CU_TARGET_COMPUTE_120A	12.8				
CU_TARGET_COMPUTE_120F	12.9				
CU_TARGET_COMPUTE_121	12.9				
CU_TARGET_COMPUTE_121A	12.9				
CU_TARGET_COMPUTE_121F	12.9				
CU_TARGET_COMPUTE_13				9.0	
CU_TARGET_COMPUTE_20				12.0	
CU_TARGET_COMPUTE_21				12.0	
CU_TARGET_COMPUTE_30					
CU_TARGET_COMPUTE_32					
CU_TARGET_COMPUTE_35					
CU_TARGET_COMPUTE_37					
CU_TARGET_COMPUTE_50					
CU_TARGET_COMPUTE_52					
CU_TARGET_COMPUTE_53	8.0				
CU_TARGET_COMPUTE_60	8.0				
CU_TARGET_COMPUTE_61	8.0				
CU_TARGET_COMPUTE_62	8.0				
CU_TARGET_COMPUTE_70	9.0				
CU_TARGET_COMPUTE_72	10.1				
CU_TARGET_COMPUTE_73	9.1			10.0	
CU_TARGET_COMPUTE_75	9.1				
CU_TARGET_COMPUTE_80	11.0				
CU_TARGET_COMPUTE_86	11.1				
CU_TARGET_COMPUTE_87	11.7				
CU_TARGET_COMPUTE_89	11.8				
CU_TARGET_COMPUTE_90	11.8				
CU_TARGET_COMPUTE_90A	12.0				
CU_TENSOR_MAP_DATA_TYPE_16U4_ALIGN16B	12.8				
CU_TENSOR_MAP_DATA_TYPE_16U4_ALIGN8B	12.8				
CU_TENSOR_MAP_DATA_TYPE_16U6_ALIGN16B	12.8				
CU_TENSOR_MAP_DATA_TYPE_BFLOAT16	12.0				
CU_TENSOR_MAP_DATA_TYPE_FLOAT16	12.0				
CU_TENSOR_MAP_DATA_TYPE_FLOAT32	12.0				
CU_TENSOR_MAP_DATA_TYPE_FLOAT32_FTZ	12.0				
CU_TENSOR_MAP_DATA_TYPE_FLOAT64	12.0				

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CUDA	A	D	C	R	HIP
CU_TENSOR_MAP_DATA_TYPE_INT32	12.0				
CU_TENSOR_MAP_DATA_TYPE_INT64	12.0				
CU_TENSOR_MAP_DATA_TYPE_TFLOAT32	12.0				
CU_TENSOR_MAP_DATA_TYPE_TFLOAT32_FTZ	12.0				
CU_TENSOR_MAP_DATA_TYPE_UINT16	12.0				
CU_TENSOR_MAP_DATA_TYPE_UINT32	12.0				
CU_TENSOR_MAP_DATA_TYPE_UINT64	12.0				
CU_TENSOR_MAP_DATA_TYPE_UINT8	12.0				
CU_TENSOR_MAP_FLOAT_OOB_FILL_NAN_REQUEST_ZERO_FMA	12.0				
CU_TENSOR_MAP_FLOAT_OOB_FILL_NONE	12.0				
CU_TENSOR_MAP_IM2COL_WIDE_MODE_W	12.8				
CU_TENSOR_MAP_IM2COL_WIDE_MODE_W128	12.8				
CU_TENSOR_MAP_INTERLEAVE_16B	12.0				
CU_TENSOR_MAP_INTERLEAVE_32B	12.0				
CU_TENSOR_MAP_INTERLEAVE_NONE	12.0				
CU_TENSOR_MAP_L2_PROMOTION_L2_128B	12.0				
CU_TENSOR_MAP_L2_PROMOTION_L2_256B	12.0				
CU_TENSOR_MAP_L2_PROMOTION_L2_64B	12.0				
CU_TENSOR_MAP_L2_PROMOTION_NONE	12.0				
CU_TENSOR_MAP_NUM_QWORDS	12.0				
CU_TENSOR_MAP_SWIZZLE_128B	12.0				
CU_TENSOR_MAP_SWIZZLE_128B_ATOM_32B	12.8				
CU_TENSOR_MAP_SWIZZLE_128B_ATOM_32B_FLIP_8B	12.8				
CU_TENSOR_MAP_SWIZZLE_128B_ATOM_64B	12.8				
CU_TENSOR_MAP_SWIZZLE_32B	12.0				
CU_TENSOR_MAP_SWIZZLE_64B	12.0				
CU_TENSOR_MAP_SWIZZLE_NONE	12.0				
CU_TRSA_OVERRIDE_FORMAT					HIP_TRSA_OVERRI
CU_TRSF_DISABLE_TRILINEAR_OPTIMIZATION	11.0				
CU_TRSF_NORMALIZED_COORDINATES					HIP_TRSF_NORMAL
CU_TRSF_READ_AS_INTEGER					HIP_TRSF_READ_A
CU_TRSF_SEAMLESS_CUBEMAP	11.6				
CU_TRSF_SRGB					HIP_TRSF_SRGB
CU_TR_ADDRESS_MODE_BORDER					HIP_TR_ADDRESS_
CU_TR_ADDRESS_MODE_CLAMP					HIP_TR_ADDRESS_
CU_TR_ADDRESS_MODE_MIRROR					HIP_TR_ADDRESS_
CU_TR_ADDRESS_MODE_WRAP					HIP_TR_ADDRESS_
CU_TR_FILTER_MODE_LINEAR					HIP_TR_FILTER_L
CU_TR_FILTER_MODE_POINT					HIP_TR_FILTER_L
CU_USER_OBJECT_NO_DESTRUCTOR_SYNC	11.3				hipUserObjectNo
CUaccessPolicyWindow	11.0				hipAccessPolicy
CUaccessPolicyWindow_st	11.0				hipAccessPolicy
CUaccessProperty	11.0				hipAccessPrope
CUaccessProperty_enum	11.0				hipAccessPrope
CUaddress_mode					HIPaddress_mode
CUaddress_mode_enum					HIPaddress_mode
CUarray					hipArray_t
CUarrayMapInfo	11.1				hipArrayMapInfo
CUarrayMapInfo_st	11.1				hipArrayMapInfo
CUarrayMapInfo_v1	11.3				hipArrayMapInfo

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CUarraySparseSubresourceType	11.1				hipArraySparseS
CUarraySparseSubresourceType_enum	11.1				hipArraySparseS
CUarray_cubemap_face					
CUarray_cubemap_face_enum					
CUarray_format					hipArray_Format
CUarray_format_enum					hipArray_Format
CUarray_st					hipArray
CUasyncCallback	12.4				
CUasyncCallbackEntry_st	12.4				
CUasyncCallbackHandle	12.4				
CUasyncNotificationInfo	12.4				
CUasyncNotificationInfo_st	12.4				
CUasyncNotificationType	12.4				
CUasyncNotificationType_enum	12.4				
CUcheckpointCheckpointArgs	12.8				
CUcheckpointCheckpointArgs_st	12.8				
CUcheckpointLockArgs	12.8				
CUcheckpointLockArgs_st	12.8				
CUcheckpointRestoreArgs	12.8				
CUcheckpointRestoreArgs_st	12.8				
CUcheckpointUnlockArgs	12.8				
CUcheckpointUnlockArgs_st	12.8				
CUcigDataType	12.5				
CUcigDataType_enum	12.5				
CUclusterSchedulingPolicy	11.8				
CUclusterSchedulingPolicy_enum	11.8				
CUcomputemode					hipComputeMode
CUcomputemode_enum					hipComputeMode
CUcontext					hipCtx_t
CUcoredumpSettings	12.1				
CUcoredumpSettings_enum	12.1				
CUctxCigParam	12.5				
CUctxCigParam_st	12.5				
CUctxCreateParams	12.5				
CUctxCreateParams_st	12.5				
CUctx_flags					
CUctx_flags_enum					
CUctx_st					ihipCtx_t
CUd3d10DeviceList					
CUd3d10DeviceList_enum					
CUd3d10map_flags					
CUd3d10map_flags_enum					
CUd3d10register_flags					
CUd3d10register_flags_enum					
CUd3d11DeviceList					
CUd3d11DeviceList_enum					
CUd3d9DeviceList					
CUd3d9DeviceList_enum					
CUd3d9map_flags					
CUd3d9map_flags_enum					

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CUDA	A	D	C	R	HIP
CUd3d9register_flags					
CUd3d9register_flags_enum					
CUdevResource	12.4				
CUdevResourceDesc	12.4				
CUdevResourceDesc_st	12.4				
CUdevResourceType	12.4				
CUdevResource_st	12.4				
CUdevSmResource	12.4				
CUdevSmResourceSplit_flags	12.5				
CUdevSmResource_st	12.4				
CUdevice					hipDevice_t
CUdeviceNumaConfig	12.2				
CUdeviceNumaConfig_enum	12.2				
CUdevice_P2PAttribute	8.0				hipDeviceP2PAt
CUdevice_P2PAttribute_enum	8.0				hipDeviceP2PAt
CUdevice_attribute					hipDeviceAttri
CUdevice_attribute_enum					hipDeviceAttri
CUdevice_v1	11.3				hipDevice_t
CUdeviceptr					hipDeviceptr_t
CUdeviceptr_v1					hipDeviceptr_t
CUdeviceptr_v2	11.3				hipDeviceptr_t
CUdevprop					
CUdevprop_st					
CUdevprop_v1	11.3				
CUdriverProcAddressQueryResult	12.0				hipDriverProcA
CUdriverProcAddressQueryResult_enum	12.0				hipDriverProcA
CUdriverProcAddress_flags	11.3				
CUdriverProcAddress_flags_enum	11.3				
CUeglColorFormat	9.0				
CUeglColorFormate_enum	9.0				
CUeglFrameType	9.0				
CUeglFrameType_enum	9.0				
CUeglResourceLocationFlags	9.0				
CUeglResourceLocationFlags_enum	9.0				
CUeglStreamConnection	9.0				
CUeglStreamConnection_st	9.0				
CUevent					hipEvent_t
CUevent_flags					
CUevent_flags_enum					
CUevent_record_flags	11.1				
CUevent_record_flags_enum	11.1				
CUevent_sched_flags	11.8				
CUevent_sched_flags_enum	11.8				
CUevent_st					ihipEvent_t
CUevent_wait_flags	11.1				
CUevent_wait_flags_enum					
CUexecAffinityParam	11.4				
CUexecAffinityParam_st	11.4				
CUexecAffinityParam_v1	11.4				
CUexecAffinitySmCount	11.4				

Table 7.5 – continued from previous page

CUDA	A	D	C	R	HIP
CUexecAffinitySmCount_st	11.4				
CUexecAffinitySmCount_v1	11.4				
CUexecAffinityType	11.4				
CUexecAffinityType_enum	11.4				
CUextMemory_st	10.0				
CUextSemaphore_st	10.0				
CUextent3D	12.8				
CUextent3D_st	12.8				
CUextent3D_v1	12.8				
CUexternalMemory	10.0				hipExternalMem
CUexternalMemoryHandleType	10.0				hipExternalMem
CUexternalMemoryHandleType_enum	10.0				hipExternalMem
CUexternalSemaphore	10.0				hipExternalSem
CUexternalSemaphoreHandleType	10.0				hipExternalSem
CUexternalSemaphoreHandleType_enum	10.0				hipExternalSem
CUfilter_mode					HIPfilter_mode
CUfilter_mode_enum					HIPfilter_mode_
CUflushGPUDirectRDMAWritesOptions	11.3				hipFlushGPUDir
CUflushGPUDirectRDMAWritesOptions_enum	11.3				hipFlushGPUDir
CUflushGPUDirectRDMAWritesScope	11.3				
CUflushGPUDirectRDMAWritesScope_enum	11.3				
CUflushGPUDirectRDMAWritesTarget	11.3				
CUflushGPUDirectRDMAWritesTarget_enum	11.3				
CUfunc_cache					hipFuncCache_t
CUfunc_cache_enum					hipFuncCache_t
CUfunc_st					ihipModuleSymbo
CUfunction					hipFunction_t
CUfunctionLoadingState	12.4				
CUfunctionLoadingState_enum	12.4				
CUfunction_attribute					hipFunction_at
CUfunction_attribute_enum					hipFunction_at
CUgraph	10.0				hipGraph_t
CUgraphChildGraphNodeOwnership	12.9				
CUgraphChildGraphNodeOwnership_enum	12.9				
CUgraphConditionalHandle	12.3				
CUgraphConditionalNodeType	12.3				
CUgraphConditionalNodeType_enum	12.3				
CUgraphDebugDot_flags	11.3				hipGraphDebugD
CUgraphDebugDot_flags_enum	11.3				hipGraphDebugD
CUgraphDependencyType	12.3				hipGraphDepende
CUgraphDependencyType_enum	12.3				hipGraphDepende
CUgraphDeviceNode	12.4				
CUgraphDeviceUpdatableNode_st	12.4				
CUgraphEdgeData	12.3				hipGraphEdgeDa
CUgraphEdgeData_st	12.3				hipGraphEdgeDa
CUgraphExec	10.0				hipGraphExec_t
CUgraphExecUpdateResult	10.2				hipGraphExecUp
CUgraphExecUpdateResultInfo	12.0				
CUgraphExecUpdateResultInfo_st	12.0				
CUgraphExecUpdateResultInfo_v1	12.0				

Table 7.5 – continued from previous page

CUDA	A	D	C	R	HIP
CUgraphExecUpdateResult_enum	10.2				hipGraphExecUp
CUgraphExec_st	10.0				hipGraphExec
CUgraphInstantiateResult	12.0				hipGraphInstan
CUgraphInstantiateResult_enum	12.0				hipGraphInstan
CUgraphInstantiate_flags	11.4				hipGraphInstan
CUgraphInstantiate_flags_enum	11.4				hipGraphInstan
CUgraphMem_attribute	11.4				hipGraphMemAtt
CUgraphMem_attribute_enum	11.4				hipGraphMemAtt
CUgraphNode	10.0				hipGraphNode_t
CUgraphNodeParams	12.2				hipGraphNodePa
CUgraphNodeParams_st	12.2				hipGraphNodePa
CUgraphNodeType	10.0				hipGraphNodeTy
CUgraphNodeType_enum	10.0				hipGraphNodeTy
CUgraphNode_st	10.0				hipGraphNode
CUgraph_st	10.0				ihipGraph
CUgraphicsMapResourceFlags					
CUgraphicsMapResourceFlags_enum					
CUgraphicsRegisterFlags					hipGraphicsReg
CUgraphicsRegisterFlags_enum					hipGraphicsReg
CUgraphicsResource					hipGraphicsRes
CUgraphicsResource_st					hipGraphicsRes
CUgreenCtx	12.4				
CUgreenCtxCreate_flags	12.4				
CUgreenCtx_st	12.4				
CUhostFn	10.0				hipHostFn_t
CUipcEventHandle					hipIpcEventHan
CUipcEventHandle_st					hipIpcEventHan
CUipcEventHandle_v1	11.3				hipIpcEventHan
CUipcMemHandle					hipIpcMemHandl
CUipcMemHandle_st					hipIpcMemHandl
CUipcMemHandle_v1	11.3				hipIpcMemHandl
CUipcMem_flags					
CUipcMem_flags_enum					
CUjitInputType					hipJitInputTyp
CUjitInputType_enum					hipJitInputTyp
CUjit_cacheMode					
CUjit_cacheMode_enum					
CUjit_fallback					
CUjit_fallback_enum					
CUjit_option					hipJitOption
CUjit_option_enum					hipJitOption
CUjit_target					
CUjit_target_enum					
CUkern_st	12.0				
CUkernel	12.0				
CUkernelNodeAttrID	11.0				hipKernelNodeA
CUkernelNodeAttrID_enum	11.0			11.8	hipKernelNodeA
CUkernelNodeAttrValue	11.0				hipKernelNodeA
CUkernelNodeAttrValue_union	11.0			11.8	hipKernelNodeA
CUkernelNodeAttrValue_v1	11.3				hipKernelNodeA

Table 7.5 – continued from previous page

CUDA	A	D	C	R	HIP
CUlaunchAttribute	11.8				hipLaunchAttrib
CUlaunchAttributeID	11.8				hipLaunchAttrib
CUlaunchAttributeID_enum	11.8				hipLaunchAttrib
CUlaunchAttributeValue	11.8				hipLaunchAttrib
CUlaunchAttributeValue_union	11.8				hipLaunchAttrib
CUlaunchAttribute_st	11.8				hipLaunchAttrib
CUlaunchConfig	11.8				HIP_LAUNCH_CONF
CUlaunchConfig_st	11.8				HIP_LAUNCH_CONF
CUlaunchMemSyncDomain	12.0				
CUlaunchMemSyncDomainMap	12.0				
CUlaunchMemSyncDomainMap_st	12.0				
CUlaunchMemSyncDomain_enum	12.0				
CUlib_st	12.0				
CUlibrary	12.0				
CUlibraryHostUniversalFunctionAndDataTable	12.0				
CUlibraryHostUniversalFunctionAndDataTable_st	12.0				
CUlibraryOption	12.0				
CUlibraryOption_enum	12.0				
CUlimit					hipLimit_t
CUlimit_enum					hipLimit_t
CUlinkState					hiprtcLinkState
CUlinkState_st					ihiprtcLinkStat
CUlogIterator	12.9				
CUlogLevel	12.9				
CUlogLevel_enum	12.9				
CUlogsCallback	12.9				
CUlogsCallbackEntry_st	12.9				
CUlogsCallbackHandle	12.9				
CUmemAccessDesc	10.2				hipMemAccessDes
CUmemAccessDesc_st	10.2				hipMemAccessDes
CUmemAccessDesc_v1	11.3				hipMemAccessDes
CUmemAccess_flags	10.2				hipMemAccessFla
CUmemAccess_flags_enum	10.2				hipMemAccessFla
CUmemAllocationGranularity_flags	10.2				hipMemAllocatio
CUmemAllocationGranularity_flags_enum	10.2				hipMemAllocatio
CUmemAllocationHandleType	10.2				hipMemAllocatio
CUmemAllocationHandleType_enum	10.2				hipMemAllocatio
CUmemAllocationProp	10.2				hipMemAllocatio
CUmemAllocationProp_st	10.2				hipMemAllocatio
CUmemAllocationProp_v1	11.3				hipMemAllocatio
CUmemAllocationType	10.2				hipMemAllocatio
CUmemAllocationType_enum	10.2				hipMemAllocatio
CUmemAttach_flags					
CUmemAttach_flags_enum					
CUmemDecompressAlgorithm	12.8				
CUmemDecompressAlgorithm_enum	12.8				
CUmemDecompressParams	12.8				
CUmemDecompressParams_st	12.8				
CUmemFabricHandle	12.3				
CUmemFabricHandle_st	12.3				

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CUDA	A	D	C	R	HIP
CUmemFabricHandle_v1	12.3				
CUmemGenericAllocationHandle	10.2				hipMemGenericA
CUmemGenericAllocationHandle_v1	11.3				hipMemGenericA
CUmemHandleType	11.1				hipMemHandleTyp
CUmemHandleType_enum	11.1				hipMemHandleTyp
CUmemLocation	10.2				hipMemLocation
CUmemLocationType	10.2				hipMemLocationT
CUmemLocationType_enum	10.2				hipMemLocationT
CUmemLocation_st	10.2				hipMemLocation
CUmemLocation_v1	11.3				hipMemLocation
CUmemOperationType	11.1				hipMemOperation
CUmemOperationType_enum	11.1				hipMemOperation
CUmemPoolHandle_st	11.2				ihipMemPoolHand
CUmemPoolProps	11.2				hipMemPoolProps
CUmemPoolProps_st	11.2				hipMemPoolProps
CUmemPoolProps_v1	11.3				hipMemPoolProps
CUmemPoolPtrExportData	11.2				hipMemPoolPtrEx
CUmemPoolPtrExportData_st	11.2				hipMemPoolPtrEx
CUmemPoolPtrExportData_v1	11.3				hipMemPoolPtrEx
CUmemPool_attribute	11.2				hipMemPoolAttr
CUmemPool_attribute_enum	11.2				hipMemPoolAttr
CUmemRangeFlags	12.8				hipMemRangeFlag
CUmemRangeFlags_enum	12.8				hipMemRangeFlag
CUmemRangeHandleType	11.7				hipMemRangeHand
CUmemRangeHandleType_enum	11.7				hipMemRangeHand
CUmem_advise	8.0				hipMemoryAdvise
CUmem_advise_enum	8.0				hipMemoryAdvise
CUmem_range_attribute	8.0				hipMemRangeAttr
CUmem_range_attribute_enum	8.0				hipMemRangeAttr
CUmemcpy3DOperand	12.8				
CUmemcpy3DOperandType	12.8				
CUmemcpy3DOperandType_enum	12.8				
CUmemcpy3DOperand_st	12.8				
CUmemcpy3DOperand_v1	12.8				
CUmemcpyAttributes	12.8				
CUmemcpyAttributes_st	12.8				
CUmemcpyAttributes_v1	12.8				
CUmemcpyFlags	12.8				
CUmemcpyFlags_enum	12.8				
CUmemcpySrcAccessOrder	12.8				
CUmemcpySrcAccessOrder_enum	12.8				
CUmemoryPool	11.2				hipMemPool_t
CUmemorytype					hipMemoryType
CUmemorytype_enum					hipMemoryType
CUmipmappedArray					hipMipmappedArr
CUmipmappedArray_st					hipMipmappedArr
CUmod_st					ihipModule_t
CUmodule					hipModule_t
CUmoduleLoadingMode	11.7				
CUmoduleLoadingMode_enum	11.7				

Table 7.5 – continued from previous page

CUDA	A	D	C	R	HIP
CUmulticastGranularity_flags	12.1				
CUmulticastGranularity_flags_enum	12.1				
CUmulticastObjectProp	12.1				
CUmulticastObjectProp_st	12.1				
CUmulticastObjectProp_v1	12.1				
CUoccupancyB2DSize					void*
CUoccupancy_flags					
CUoccupancy_flags_enum					
CUoffset3D	12.8				
CUoffset3D_st	12.8				
CUoffset3D_v1	12.8				
CUpointer_attribute					hipPointer_attr
CUpointer_attribute_enum					hipPointer_attr
CUprocessState	12.8				
CUprocessState_enum	12.8				
CUresourceViewFormat					HIPresourceVie
CUresourceViewFormat_enum					HIPresourceVie
CUresourcetype					HIPresourcetyp
CUresourcetype_enum					HIPresourcetyp
CUresult					hipError_t
CUshared_carveout	9.0				
CUshared_carveout_enum	9.0				
CUsharedconfig					hipSharedMemCo
CUsharedconfig_enum					hipSharedMemCo
CUstream					hipStream_t
CUstreamAttrID	11.0				
CUstreamAttrID_enum	11.0			11.8	
CUstreamAttrValue	11.0				
CUstreamAttrValue_union	11.0				
CUstreamAttrValue_v1	11.3				
CUstreamBatchMemOpParams	8.0				hipStreamBatchM
CUstreamBatchMemOpParams_union	8.0				hipStreamBatchM
CUstreamBatchMemOpParams_v1	11.3				hipStreamBatchM
CUstreamBatchMemOpType	8.0				hipStreamBatchM
CUstreamBatchMemOpType_enum	8.0				hipStreamBatchM
CUstreamCallback					hipStreamCallba
CUstreamCaptureMode	10.1				hipStreamCaptur
CUstreamCaptureMode_enum	10.1				hipStreamCaptur
CUstreamCaptureStatus	10.0				hipStreamCaptur
CUstreamCaptureStatus_enum	10.0				hipStreamCaptur
CUstreamMemOpMemoryBarrierParams_st	11.7				
CUstreamMemoryBarrier_flags	11.7				
CUstreamMemoryBarrier_flags_enum	11.7				
CUstreamUpdateCaptureDependencies_flags	11.3				hipStreamUpdate
CUstreamUpdateCaptureDependencies_flags_enum	11.3				hipStreamUpdate
CUstreamWaitValue_flags	8.0				
CUstreamWaitValue_flags_enum	8.0				
CUstreamWriteValue_flags	8.0				
CUstreamWriteValue_flags_enum	8.0				
CUstream_flags					

Table 7.5 – continued from previous page

CUDA	A	D	C	R	HIP
CUstream_flags_enum					
CUstream_st					ihipStream_t
CUsurfObject					hipSurfaceObje
CUsurfObject_v1	11.3				hipSurfaceObje
CUsurfref					
CUsurfref_st					
CUsynchronizationPolicy	11.0				
CUsynchronizationPolicy_enum	11.0				
CUtensorMap	12.0				
CUtensorMapDataType	12.0				
CUtensorMapDataType_enum	12.0				
CUtensorMapFloatOOBfill	12.0				
CUtensorMapFloatOOBfill_enum	12.0				
CUtensorMapIm2ColWideMode	12.8				
CUtensorMapIm2ColWideMode_enum	12.8				
CUtensorMapInterleave	12.0				
CUtensorMapInterleave_enum	12.0				
CUtensorMapL2promotion	12.0				
CUtensorMapL2promotion_enum	12.0				
CUtensorMapSwizzle	12.0				
CUtensorMapSwizzle_enum	12.0				
CUtensorMap_st	12.0				
CUtexObject					hipTextureObje
CUtexObject_v1	11.3				hipTextureObje
CUtexref					hipTexRef
CUtexref_st					textureReferen
CUuserObject	11.3				hipUserObject_
CUuserObjectRetain_flags	11.3				hipUserObjectR
CUuserObjectRetain_flags_enum	11.3				hipUserObjectR
CUuserObject_flags	11.3				hipUserObjectF
CUuserObject_flags_enum	11.3				hipUserObjectF
CUuserObject_st	11.3				hipUserObject
CUuuid					hipUUID
CUuuid_st					hipUUID_t
GLenum					GLenum
GLuint					GLuint
NVCL_CTX_SCHED_AUTO	11.8				
NVCL_CTX_SCHED_BLOCKING_SYNC	11.8				
NVCL_CTX_SCHED_SPIN	11.8				
NVCL_CTX_SCHED_YIELD	11.8				
NVCL_EVENT_SCHED_AUTO	11.8				
NVCL_EVENT_SCHED_BLOCKING_SYNC	11.8				
NVCL_EVENT_SCHED_SPIN	11.8				
NVCL_EVENT_SCHED_YIELD	11.8				
__CUDACC__					__HIPCC__
cl_context_flags	11.8				
cl_context_flags_enum	11.8				
cl_event_flags	11.8				
cl_event_flags_enum	11.8				
cudaError_enum					hipError_t

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CUDA	A	D	C	R	HIP
memoryBarrier	11.7				

7.2.2 2. Error Handling

CUDA	A	D	C	R	HIP	A	D	C	R	E
cuGetErrorName					hipDrvGetErrorName	5.4.0				
cuGetErrorString					hipDrvGetErrorString	5.4.0				

7.2.3 3. Initialization

CUDA	A	D	C	R	HIP	A	D	C	R	E
cuInit					hipInit	1.6.0				

7.2.4 4. Version Management

CUDA	A	D	C	R	HIP	A	D	C	R	E
cuDriverGetVersion					hipDriverGetVersion	1.6.0				

7.2.5 5. Device Management

CUDA	A	D	C	R	HIP	A	D	C	R	E
cuDeviceGet					hipDeviceGet	1.6.0				
cuDeviceGetAttribute					hipDeviceGetAttribute	1.6.0				
cuDeviceGetCount					hipGetDeviceCount	1.6.0				
cuDeviceGetDefaultMemPool	11.2				hipDeviceGetDefaultMemPool	5.2.0				
cuDeviceGetExecAffinitySu	11.4									
cuDeviceGetLuid	10.0									
cuDeviceGetMemPool	11.2				hipDeviceGetMemPool	5.2.0				
cuDeviceGetName					hipDeviceGetName	1.6.0				
cuDeviceGetNvSciSyncAttril	10.2									
cuDeviceGetTexture1DLinea	11.1				hipDeviceGetTexture1DLinea	6.4.0				
cuDeviceGetUuid	9.2				hipDeviceGetUuid	5.2.0				
cuDeviceGetUuid_v2	11.4				hipDeviceGetUuid	5.2.0				
cuDeviceSetMemPool	11.2				hipDeviceSetMemPool	5.2.0				
cuDeviceTotalMem					hipDeviceTotalMem	1.6.0				
cuDeviceTotalMem_v2					hipDeviceTotalMem	1.6.0				
cuFlushGPUDirectRDMAWrite	11.3									

7.2.6 6. Device Management [DEPRECATED]

CUDA	A	D	C	R	HIP	A	D	C	R	E
cuDeviceComputeCapability		9.2			hipDeviceComputeCapability	1.6.0				
cuDeviceGetProperties		9.2								

7.2.7 7. Primary Context Management

CUDA	A	D	C	R	HIP	A	D	C	R	E
cuDevicePrimaryCtxGetState					hipDevicePrimaryCtxGetSt	1.9.0	6.1.0			
cuDevicePrimaryCtxRelease					hipDevicePrimaryCtxRelea	1.9.0	6.1.0			
cuDevicePrimaryCtxRelease_	11.0				hipDevicePrimaryCtxRelea	1.9.0	6.1.0			
cuDevicePrimaryCtxReset					hipDevicePrimaryCtxReset	1.9.0	6.1.0			
cuDevicePrimaryCtxReset_v2	11.0				hipDevicePrimaryCtxReset	1.9.0	6.1.0			
cuDevicePrimaryCtxRetain					hipDevicePrimaryCtxRetai	1.9.0	6.1.0			
cuDevicePrimaryCtxSetFlags					hipDevicePrimaryCtxSetFl	1.9.0	6.1.0			
cuDevicePrimaryCtxSetFlags	11.0				hipDevicePrimaryCtxSetFl	1.9.0	6.1.0			

7.2.8 8. Context Management

CUDA	A	D	C	R	HIP	A	D	C	R	E
cuCtxCreate					hipCtxCreate	1.6.0	1.9.0			
cuCtxCreate_v2					hipCtxCreate	1.6.0	1.9.0			
cuCtxCreate_v3	11.4									
cuCtxCreate_v4	12.5									
cuCtxDestroy					hipCtxDestroy	1.6.0	1.9.0			
cuCtxDestroy_v2					hipCtxDestroy	1.6.0	1.9.0			
cuCtxGetApiVersion					hipCtxGetApiVersion	1.9.0	1.9.0	7.0.0		
cuCtxGetCacheConfig					hipCtxGetCacheConfig	1.9.0	1.9.0			
cuCtxGetCurrent					hipCtxGetCurrent	1.6.0	1.9.0			
cuCtxGetDevice					hipCtxGetDevice	1.6.0	1.9.0			
cuCtxGetExecAffinity	11.4									
cuCtxGetFlags					hipCtxGetFlags	1.9.0	1.9.0			
cuCtxGetId	12.0									
cuCtxGetLimit					hipDeviceGetLimit	1.6.0				
cuCtxGetSharedMemConfi				12.4	hipCtxGetSharedMemConfig	1.9.0	1.9.0			
cuCtxGetStreamPriority					hipDeviceGetStreamPriorit	2.0.0				
cuCtxPopCurrent					hipCtxPopCurrent	1.6.0	1.9.0			
cuCtxPopCurrent_v2					hipCtxPopCurrent	1.6.0	1.9.0			
cuCtxPushCurrent					hipCtxPushCurrent	1.6.0	1.9.0			
cuCtxPushCurrent_v2					hipCtxPushCurrent	1.6.0	1.9.0			
cuCtxResetPersistingL2	11.0									
cuCtxSetCacheConfig					hipCtxSetCacheConfig	1.9.0	1.9.0			
cuCtxSetCurrent					hipCtxSetCurrent	1.6.0	1.9.0			
cuCtxSetFlags	12.1									
cuCtxSetLimit					hipDeviceSetLimit	5.3.0				
cuCtxSetSharedMemConfi				12.4	hipCtxSetSharedMemConfig	1.9.0	1.9.0			
cuCtxSynchronize					hipCtxSynchronize	1.9.0	1.9.0			
cuCtxWaitEvent	12.5									

7.2.9 9. Context Management [DEPRECATED]

CUDA	A	D	C	R	HIP	A	D	C	R	E
cuCtxAttach										
cuCtxDetach										

7.2.10 10. Module Management

CUDA	A	D	C	R	HIP	A	D	C	R	E
cuLinkAddData					hiprtcLinkAddData	5.3.0				
cuLinkAddData_v2					hiprtcLinkAddData	5.3.0				
cuLinkAddFile					hiprtcLinkAddFile	5.3.0				
cuLinkAddFile_v2					hiprtcLinkAddFile	5.3.0				
cuLinkComplete					hiprtcLinkComplete	5.3.0				
cuLinkCreate					hiprtcLinkCreate	5.3.0				
cuLinkCreate_v2					hiprtcLinkCreate	5.3.0				
cuLinkDestroy					hiprtcLinkDestroy	5.3.0				
cuModuleEnumerateFunctions	12.4									
cuModuleGetFunction					hipModuleGetFunction	1.6.0				
cuModuleGetFunctionCount	12.4									
cuModuleGetGlobal					hipModuleGetGlobal	1.6.0				
cuModuleGetGlobal_v2					hipModuleGetGlobal	1.6.0				
cuModuleGetLoadingMode	11.7									
cuModuleLoad					hipModuleLoad	1.6.0				
cuModuleLoadData					hipModuleLoadData	1.6.0				
cuModuleLoadDataEx					hipModuleLoadDataEx	1.6.0				
cuModuleLoadFatBinary										
cuModuleUnload					hipModuleUnload	1.6.0				

7.2.11 11. Module Management [DEPRECATED]

CUDA	A	D	C	R	HIP	A	D	C	R	E
cuModuleGetSurfRef		12.0								
cuModuleGetTexRef		12.0			hipModuleGetTexRef	1.7.0				

7.2.12 12. Library Management

CUDA	A	D	C	R	HIP	A	D	C	R	E
cuKernelGetAttribute	12.0									
cuKernelGetFunction	12.0									
cuKernelGetLibrary	12.5									
cuKernelGetName	12.3									
cuKernelGetParamInfo	12.4									
cuKernelSetAttribute	12.0									
cuKernelSetCacheConfig	12.0									
cuLibraryEnumerateKernels	12.4									
cuLibraryGetGlobal	12.0									
cuLibraryGetKernel	12.0									
cuLibraryGetKernelCount	12.4									
cuLibraryGetManaged	12.0									
cuLibraryGetModule	12.0									
cuLibraryGetUnifiedFunction	12.0									
cuLibraryLoadData	12.0									
cuLibraryLoadFromFile	12.0									
cuLibraryUnload	12.0									

7.2.13 13. Memory Management

CUDA	A	D	C	R	HIP	A	D	C
cuArray3DCreate					hipArray3DCreate	1.7.1		
cuArray3DCreate_v2					hipArray3DCreate	1.7.1		
cuArray3DGetDescriptor					hipArray3DGetDescriptor	5.6.0		
cuArray3DGetDescriptor_v2					hipArray3DGetDescriptor	5.6.0		
cuArrayCreate					hipArrayCreate	1.9.0		
cuArrayCreate_v2					hipArrayCreate	1.9.0		
cuArrayDestroy					hipArrayDestroy	4.2.0		
cuArrayGetDescriptor					hipArrayGetDescriptor	5.6.0		
cuArrayGetDescriptor_v2					hipArrayGetDescriptor	5.6.0		
cuArrayGetMemoryRequirements	11.6							
cuArrayGetPlane	11.2							
cuArrayGetSparseProperties	11.1							
cuDeviceGetByPCIBusId					hipDeviceGetByPCIBusId	1.6.0		
cuDeviceGetPCIBusId					hipDeviceGetPCIBusId	1.6.0		
cuDeviceRegisterAsyncNotification	12.4							
cuDeviceUnregisterAsyncNotification	12.4							
cuIpcCloseMemHandle					hipIpcCloseMemHandle	1.6.0		
cuIpcGetEventHandle					hipIpcGetEventHandle	1.6.0		
cuIpcGetMemHandle					hipIpcGetMemHandle	1.6.0		
cuIpcOpenEventHandle					hipIpcOpenEventHandle	1.6.0		
cuIpcOpenMemHandle					hipIpcOpenMemHandle	1.6.0		
cuMemAlloc					hipMalloc	1.5.0		
cuMemAllocHost					hipMemAllocHost	3.0.0	3.0.0	
cuMemAllocHost_v2					hipMemAllocHost	3.0.0	3.0.0	
cuMemAllocManaged					hipMallocManaged	2.5.0		
cuMemAllocPitch					hipMemAllocPitch	3.0.0		
cuMemAllocPitch_v2					hipMemAllocPitch	3.0.0		
cuMemAlloc_v2					hipMalloc	1.5.0		
cuMemBatchDecompressAsync	12.8							
cuMemFree					hipFree	1.5.0		
cuMemFreeHost					hipHostFree	1.6.0		
cuMemFree_v2					hipFree	1.5.0		
cuMemGetAddressRange					hipMemGetAddressRange	1.9.0		
cuMemGetAddressRange_v2					hipMemGetAddressRange	1.9.0		
cuMemGetHandleForAddressRange	11.7				hipMemGetHandleForAddressRange	7.0.0		
cuMemGetInfo					hipMemGetInfo	1.6.0		
cuMemGetInfo_v2					hipMemGetInfo	1.6.0		
cuMemHostAlloc					hipHostAlloc	1.6.0		
cuMemHostGetDevicePointer					hipHostGetDevicePointer	1.6.0		
cuMemHostGetDevicePointer_v2					hipHostGetDevicePointer	1.6.0		
cuMemHostGetFlags					hipHostGetFlags	1.6.0		
cuMemHostRegister					hipHostRegister	1.6.0		
cuMemHostRegister_v2					hipHostRegister	1.6.0		
cuMemHostUnregister					hipHostUnregister	1.6.0		
cuMemcpy								
cuMemcpy2D					hipMemcpyParam2D	1.7.0		
cuMemcpy2DAsync					hipMemcpyParam2DAsync	2.8.0		
cuMemcpy2DAsync_v2					hipMemcpyParam2DAsync	2.8.0		
cuMemcpy2DUnaligned					hipDrvMemcpy2DUnaligned	4.2.0		

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Table 7.6 – continued from previous page

CUDA	A	D	C	R	HIP	A	D	C
cuMemcpy2DUnaligned_v2					hipDrvMemcpy2DUnaligned	4.2.0		
cuMemcpy2D_v2					hipMemcpyParam2D	1.7.0		
cuMemcpy3D					hipDrvMemcpy3D	3.5.0		
cuMemcpy3DAsync					hipDrvMemcpy3DAsync	3.5.0		
cuMemcpy3DAsync_v2					hipDrvMemcpy3DAsync	3.5.0		
cuMemcpy3DBatchAsync	12.8							
cuMemcpy3DPeer								
cuMemcpy3DPeerAsync								
cuMemcpy3D_v2					hipDrvMemcpy3D	3.5.0		
cuMemcpyAsync								
cuMemcpyAtoA					hipMemcpyAtoA	6.2.0		
cuMemcpyAtoA_v2					hipMemcpyAtoA	6.2.0		
cuMemcpyAtoD					hipMemcpyAtoD	6.2.0		
cuMemcpyAtoD_v2					hipMemcpyAtoD	6.2.0		
cuMemcpyAtoH					hipMemcpyAtoH	1.9.0		
cuMemcpyAtoHAsync					hipMemcpyAtoHAsync	6.2.0		
cuMemcpyAtoHAsync_v2					hipMemcpyAtoHAsync	6.2.0		
cuMemcpyAtoH_v2					hipMemcpyAtoH	1.9.0		
cuMemcpyBatchAsync	12.8							
cuMemcpyDtoA					hipMemcpyDtoA	6.2.0		
cuMemcpyDtoA_v2					hipMemcpyDtoA	6.2.0		
cuMemcpyDtoD					hipMemcpyDtoD	1.6.0		
cuMemcpyDtoDAsync					hipMemcpyDtoDAsync	1.6.0		
cuMemcpyDtoDAsync_v2					hipMemcpyDtoDAsync	1.6.0		
cuMemcpyDtoD_v2					hipMemcpyDtoD	1.6.0		
cuMemcpyDtoH					hipMemcpyDtoH	1.6.0		
cuMemcpyDtoHAsync					hipMemcpyDtoHAsync	1.6.0		
cuMemcpyDtoHAsync_v2					hipMemcpyDtoHAsync	1.6.0		
cuMemcpyDtoH_v2					hipMemcpyDtoH	1.6.0		
cuMemcpyHtoA					hipMemcpyHtoA	1.9.0		
cuMemcpyHtoAAsync					hipMemcpyHtoAAsync	6.2.0		
cuMemcpyHtoAAsync_v2					hipMemcpyHtoAAsync	6.2.0		
cuMemcpyHtoA_v2					hipMemcpyHtoA	1.9.0		
cuMemcpyHtoD					hipMemcpyHtoD	1.6.0		
cuMemcpyHtoDAsync					hipMemcpyHtoDAsync	1.6.0		
cuMemcpyHtoDAsync_v2					hipMemcpyHtoDAsync	1.6.0		
cuMemcpyHtoD_v2					hipMemcpyHtoD	1.6.0		
cuMemcpyPeer								
cuMemcpyPeerAsync								
cuMemsetD16					hipMemsetD16	3.0.0		
cuMemsetD16Async					hipMemsetD16Async	3.0.0		
cuMemsetD16_v2					hipMemsetD16	3.0.0		
cuMemsetD2D16								
cuMemsetD2D16Async								
cuMemsetD2D16_v2								
cuMemsetD2D32								
cuMemsetD2D32Async								
cuMemsetD2D32_v2								
cuMemsetD2D8								
cuMemsetD2D8Async								

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Table 7.6 – continued from previous page

CUDA	A	D	C	R	HIP	A	D	C
cuMemsetD2D8_v2								
cuMemsetD32					hipMemsetD32	2.3.0		
cuMemsetD32Async					hipMemsetD32Async	2.3.0		
cuMemsetD32_v2					hipMemsetD32	2.3.0		
cuMemsetD8					hipMemsetD8	1.6.0		
cuMemsetD8Async					hipMemsetD8Async	3.0.0		
cuMemsetD8_v2					hipMemsetD8	1.6.0		
cuMipmappedArrayCreate					hipMipmappedArrayCreate	3.5.0	5.7.0	
cuMipmappedArrayDestroy					hipMipmappedArrayDestroy	3.5.0	5.7.0	
cuMipmappedArrayGetLevel					hipMipmappedArrayGetLevel	3.5.0	5.7.0	
cuMipmappedArrayGetMemoryRequirements	11.6							

7.2.14 14. Virtual Memory Management

CUDA	A	D	C	R	HIP	A	D	C	R	E
cuMemAddressFree	10.2				hipMemAddressFree	5.2.0				
cuMemAddressReserve	10.2				hipMemAddressReserve	5.2.0				
cuMemCreate	10.2				hipMemCreate	5.2.0				
cuMemExportToShareableHan	10.2				hipMemExportToShareableHan	5.2.0				
cuMemGetAccess	10.2				hipMemGetAccess	5.2.0				
cuMemGetAllocationGranula	10.2				hipMemGetAllocationGranula	5.2.0				
cuMemGetAllocationPropert	10.2				hipMemGetAllocationPropert	5.2.0				
cuMemImportFromShareableH	10.2				hipMemImportFromShareableH	5.2.0				
cuMemMap	10.2				hipMemMap	5.2.0				
cuMemMapArrayAsync	11.1				hipMemMapArrayAsync	5.2.0				
cuMemRelease	10.2				hipMemRelease	5.2.0				
cuMemRetainAllocationHand	11.0				hipMemRetainAllocationHand	5.2.0				
cuMemSetAccess	10.2				hipMemSetAccess	5.2.0				
cuMemUnmap	10.2				hipMemUnmap	5.2.0				

7.2.15 15. Stream Ordered Memory Allocator

CUDA	A	D	C	R	HIP	A	D	C	R	E
cuMemAllocAsync	11.2				hipMallocAsync	5.2.0				
cuMemAllocFromPoolAsync	11.2				hipMallocFromPoolAsync	5.2.0				
cuMemFreeAsync	11.2				hipFreeAsync	5.2.0				
cuMemPoolCreate	11.2				hipMemPoolCreate	5.2.0				
cuMemPoolDestroy	11.2				hipMemPoolDestroy	5.2.0				
cuMemPoolExportPointer	11.2				hipMemPoolExportPointer	5.2.0				
cuMemPoolExportToShareable	11.2				hipMemPoolExportToShareabl	5.2.0				
cuMemPoolGetAccess	11.2				hipMemPoolGetAccess	5.2.0				
cuMemPoolGetAttribute	11.2				hipMemPoolGetAttribute	5.2.0				
cuMemPoolImportFromShareal	11.2				hipMemPoolImportFromSharea	5.2.0				
cuMemPoolImportPointer	11.2				hipMemPoolImportPointer	5.2.0				
cuMemPoolSetAccess	11.2				hipMemPoolSetAccess	5.2.0				
cuMemPoolSetAttribute	11.2				hipMemPoolSetAttribute	5.2.0				
cuMemPoolTrimTo	11.2				hipMemPoolTrimTo	5.2.0				

7.2.16 16. Multicast Object Management

CUDA	A	D	C	R	HIP	A	D	C	R	E
cuMulticastAddDevice	12.1									
cuMulticastBindAddr	12.1									
cuMulticastBindMem	12.1									
cuMulticastCreate	12.1									
cuMulticastGetGranularity	12.1									
cuMulticastUnbind	12.1									

7.2.17 17. Unified Addressing

CUDA	A	D	C	R	HIP	A	D	C	R	E
cuMemAdvise	8.0				hipMemAdvise	3.7.0				
cuMemAdvise_v2	12.2									
cuMemPrefetchAsync	8.0				hipMemPrefetchAsync	3.7.0				
cuMemPrefetchAsync_v2	12.2									
cuMemRangeGetAttribute	8.0				hipMemRangeGetAttribute	3.7.0				
cuMemRangeGetAttributes	8.0				hipMemRangeGetAttributes	3.7.0				
cuPointerGetAttribute					hipPointerGetAttribute	5.0.0				
cuPointerGetAttributes					hipDrvPointerGetAttributes	5.0.0				
cuPointerSetAttribute					hipPointerSetAttribute	5.5.0				

7.2.18 18. Stream Management

CUDA	A	D	C	R	HIP	A	D	C
cuStreamAddCallback					hipStreamAddCallback	1.6.0		
cuStreamAttachMemAsync					hipStreamAttachMemAsync	3.7.0		
cuStreamBeginCapture	10.0				hipStreamBeginCapture	4.3.0		
cuStreamBeginCaptureToGraph	12.3				hipStreamBeginCaptureToGraph	6.2.0		
cuStreamBeginCapture_ptsz	10.1							
cuStreamBeginCapture_v2	10.1				hipStreamBeginCapture	4.3.0		
cuStreamCopyAttributes	11.0							
cuStreamCreate					hipStreamCreateWithFlags	1.6.0		
cuStreamCreateWithPriority					hipStreamCreateWithPriority	2.0.0		
cuStreamDestroy					hipStreamDestroy	1.6.0		
cuStreamDestroy_v2					hipStreamDestroy	1.6.0		
cuStreamEndCapture	10.0				hipStreamEndCapture	4.3.0		
cuStreamGetAttribute	11.0							
cuStreamGetCaptureInfo	10.1				hipStreamGetCaptureInfo	5.0.0		
cuStreamGetCaptureInfo_v2	11.3				hipStreamGetCaptureInfo_v2	5.0.0		
cuStreamGetCaptureInfo_v3	12.3							
cuStreamGetCtx	9.2							
cuStreamGetCtx_v2	12.5							
cuStreamGetDevice	12.8							
cuStreamGetFlags					hipStreamGetFlags	1.6.0		
cuStreamGetId	12.0							
cuStreamGetPriority					hipStreamGetPriority	2.0.0		
cuStreamIsCapturing	10.0				hipStreamIsCapturing	5.0.0		
cuStreamQuery					hipStreamQuery	1.6.0		
cuStreamSetAttribute	11.0							

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Table 7.7 – continued from previous page

CUDA	A	D	C	R	HIP	A	D	C
cuStreamSynchronize					hipStreamSynchronize	1.6.0		
cuStreamUpdateCaptureDependencies	11.3				hipStreamUpdateCaptureDependencies	5.0.0		
cuStreamUpdateCaptureDependencies_v2	12.3							
cuStreamWaitEvent					hipStreamWaitEvent	1.6.0		
cuThreadExchangeStreamCaptureMode	10.1				hipThreadExchangeStreamCaptureMode	5.2.0		

7.2.19 19. Event Management

CUDA	A	D	C	R	HIP	A	D	C	R	E
cuEventCreate					hipEventCreateWithFlags	1.6.0				
cuEventDestroy					hipEventDestroy	1.6.0				
cuEventDestroy_v2					hipEventDestroy	1.6.0				
cuEventElapsedTime					hipEventElapsedTime	1.6.0				
cuEventElapsedTime_v2	12.8									
cuEventQuery					hipEventQuery	1.6.0				
cuEventRecord					hipEventRecord	1.6.0				
cuEventRecordWithFlags	11.1				hipEventRecordWithFlags	6.4.0				
cuEventSynchronize					hipEventSynchronize	1.6.0				

7.2.20 20. External Resource Interoperability

CUDA	A	D	C	R	HIP	A	D	C	R	E
cuDestroyExternalMemory	10.0				hipDestroyExternalMemor	4.3.0				
cuDestroyExternalSemaphore	10.0				hipDestroyExternalSemapl	4.4.0				
cuExternalMemoryGetMappedBuf	10.0				hipExternalMemoryGetMap	4.3.0				
cuExternalMemoryGetMappedMip	10.0									
cuImportExternalMemory	10.0				hipImportExternalMemory	4.3.0				
cuImportExternalSemaphore	10.0				hipImportExternalSemaph	4.4.0				
cuSignalExternalSemaphoresAs	10.0				hipSignalExternalSemaph	4.4.0				
cuWaitExternalSemaphoresAsyn	10.0				hipWaitExternalSemaphor	4.4.0				

7.2.21 21. Stream Memory Operations

CUDA	A	D	C	R	HIP	A	D	C	R	E
cuStreamBatchMemOp	8.0				hipStreamBatchMemOp	6.4.0				
cuStreamBatchMemOp_v2	11.7				hipStreamBatchMemOp	6.4.0				
cuStreamWaitValue32	8.0				hipStreamWaitValue32	4.2.0				
cuStreamWaitValue32_v2	11.7				hipStreamWaitValue32	4.2.0				
cuStreamWaitValue64	9.0				hipStreamWaitValue64	4.2.0				
cuStreamWaitValue64_v2	11.7				hipStreamWaitValue64	4.2.0				
cuStreamWriteValue32	8.0				hipStreamWriteValue32	4.2.0				
cuStreamWriteValue32_v2	11.7				hipStreamWriteValue32	4.2.0				
cuStreamWriteValue64	9.0				hipStreamWriteValue64	4.2.0				
cuStreamWriteValue64_v2	11.7				hipStreamWriteValue64	4.2.0				

7.2.22 22. Execution Control

CUDA	A	D	C	R	HIP	A	D	C	R	E
cuFuncGetAttribute					hipFuncGetAttribute	2.8.0				
cuFuncGetModule	11.0									
cuFuncGetName	12.3									
cuFuncGetParamInfo	12.4									
cuFuncIsLoaded	12.4									
cuFuncLoad	12.4									
cuFuncSetAttribute	9.0									
cuFuncSetCacheConfig										
cuFuncSetSharedMemCon:				12.4						
cuLaunchCooperativeKe:	9.0				hipModuleLaunchCooperative	5.5.0				
cuLaunchCooperativeKe:	9.0	11.3			hipModuleLaunchCooperative	5.5.0				
cuLaunchHostFunc	10.0				hipLaunchHostFunc	5.2.0				
cuLaunchKernel					hipModuleLaunchKernel	1.6.0				
cuLaunchKernelEx	11.8				hipDrvLaunchKernelEx	7.0.0				7.0.0

7.2.23 23. Execution Control [DEPRECATED]

CUDA	A	D	C	R	HIP	A	D	C	R	E
cuFuncSetBlockShape		9.2								
cuFuncSetSharedSize		9.2								
cuLaunch		9.2								
cuLaunchGrid		9.2								
cuLaunchGridAsync		9.2								
cuParamSetSize		9.2								
cuParamSetTexRef		9.2								
cuParamSetf		9.2								
cuParamSeti		9.2								
cuParamSetv		9.2								

7.2.24 24. Graph Management

CUDA	A	D	C	R	HIP
cuDeviceGetGraphMemAttribute	11.4				hipDeviceGetGraphMemAttribute
cuDeviceGraphMemTrim	11.4				hipDeviceGraphMemTrim
cuDeviceSetGraphMemAttribute	11.4				hipDeviceSetGraphMemAttribute
cuGraphAddBatchMemOpNode	11.7				hipGraphAddBatchMemOpNode
cuGraphAddChildGraphNode	10.0				hipGraphAddChildGraphNode
cuGraphAddDependencies	10.0				hipGraphAddDependencies
cuGraphAddDependencies_v2	12.3				
cuGraphAddEmptyNode	10.0				hipGraphAddEmptyNode
cuGraphAddEventRecordNode	11.1				hipGraphAddEventRecordNode
cuGraphAddEventWaitNode	11.1				hipGraphAddEventWaitNode
cuGraphAddExternalSemaphoresSignalNode	11.2				hipGraphAddExternalSemaphoresSignal
cuGraphAddExternalSemaphoresWaitNode	11.2				hipGraphAddExternalSemaphoresWaitNo
cuGraphAddHostNode	10.0				hipGraphAddHostNode
cuGraphAddKernelNode	10.0				hipGraphAddKernelNode
cuGraphAddMemAllocNode	11.4				hipGraphAddMemAllocNode
cuGraphAddMemFreeNode	11.4				hipDrvGraphAddMemFreeNode
cuGraphAddMemcpyNode	10.0				hipDrvGraphAddMemcpyNode
cuGraphAddMemsetNode	10.0				hipDrvGraphAddMemsetNode
cuGraphAddNode	12.2				hipGraphAddNode
cuGraphAddNode_v2	12.3				
cuGraphBatchMemOpNodeGetParams	11.7				hipGraphBatchMemOpNodeGetParams
cuGraphBatchMemOpNodeSetParams	11.7				hipGraphBatchMemOpNodeSetParams
cuGraphChildGraphNodeGetGraph	10.0				hipGraphChildGraphNodeGetGraph

Table 7.8 – continued from previous page

CUDA	A	D	C	R	HIP
cuGraphClone	10.0				hipGraphClone
cuGraphConditionalHandleCreate	12.3				
cuGraphCreate	10.0				hipGraphCreate
cuGraphDebugDotPrint	11.3				hipGraphDebugDotPrint
cuGraphDestroy	10.0				hipGraphDestroy
cuGraphDestroyNode	10.0				hipGraphDestroyNode
cuGraphEventRecordNodeGetEvent	11.1				hipGraphEventRecordNodeGetEvent
cuGraphEventRecordNodeSetEvent	11.1				hipGraphEventRecordNodeSetEvent
cuGraphEventWaitNodeGetEvent	11.1				hipGraphEventWaitNodeGetEvent
cuGraphEventWaitNodeSetEvent	11.1				hipGraphEventWaitNodeSetEvent
cuGraphExecBatchMemOpNodeSetParams	11.7				hipGraphExecBatchMemOpNodeSetParams
cuGraphExecChildGraphNodeSetParams	11.1				hipGraphExecChildGraphNodeSetParams
cuGraphExecDestroy	10.0				hipGraphExecDestroy
cuGraphExecEventRecordNodeSetEvent	11.1				hipGraphExecEventRecordNodeSetEvent
cuGraphExecEventWaitNodeSetEvent	11.1				hipGraphExecEventWaitNodeSetEvent
cuGraphExecExternalSemaphoresSignalNodeSetParams	11.2				hipGraphExecExternalSemaphoresSigna
cuGraphExecExternalSemaphoresWaitNodeSetParams	11.2				hipGraphExecExternalSemaphoresWaitN
cuGraphExecGetFlags	12.0				hipGraphExecGetFlags
cuGraphExecHostNodeSetParams	10.2				hipGraphExecHostNodeSetParams
cuGraphExecKernelNodeSetParams	10.1				hipGraphExecKernelNodeSetParams
cuGraphExecMemcpyNodeSetParams	10.2				hipDrvGraphExecMemcpyNodeSetParams
cuGraphExecMemsetNodeSetParams	10.2				hipDrvGraphExecMemsetNodeSetParams
cuGraphExecNodeSetParams	12.2				hipGraphExecNodeSetParams
cuGraphExecUpdate	10.2				hipGraphExecUpdate
cuGraphExternalSemaphoresSignalNodeGetParams	11.2				hipGraphExternalSemaphoresSignalNod
cuGraphExternalSemaphoresSignalNodeSetParams	11.2				hipGraphExternalSemaphoresSignalNod
cuGraphExternalSemaphoresWaitNodeGetParams	11.2				hipGraphExternalSemaphoresWaitNodeG
cuGraphExternalSemaphoresWaitNodeSetParams	11.2				hipGraphExternalSemaphoresWaitNodeS
cuGraphGetEdges	10.0				hipGraphGetEdges
cuGraphGetEdges_v2	12.3				
cuGraphGetNodes	10.0				hipGraphGetNodes
cuGraphGetRootNodes	10.0				hipGraphGetRootNodes
cuGraphHostNodeGetParams	10.0				hipGraphHostNodeGetParams
cuGraphHostNodeSetParams	10.0				hipGraphHostNodeSetParams
cuGraphInstantiate	10.0				hipGraphInstantiate
cuGraphInstantiateWithFlags	11.4				hipGraphInstantiateWithFlags
cuGraphInstantiateWithParams	12.0				hipGraphInstantiateWithParams
cuGraphInstantiate_v2	11.0				hipGraphInstantiate
cuGraphKernelNodeCopyAttributes	11.0				hipGraphKernelNodeCopyAttributes
cuGraphKernelNodeGetAttribute	11.0				hipGraphKernelNodeGetAttribute
cuGraphKernelNodeGetParams	10.0				hipGraphKernelNodeGetParams
cuGraphKernelNodeSetAttribute	11.0				hipGraphKernelNodeSetAttribute
cuGraphKernelNodeSetParams	10.0				hipGraphKernelNodeSetParams
cuGraphLaunch	10.0				hipGraphLaunch
cuGraphMemAllocNodeGetParams	11.4				hipGraphMemAllocNodeGetParams
cuGraphMemFreeNodeGetParams	11.4				hipGraphMemFreeNodeGetParams
cuGraphMemcpyNodeGetParams	10.0				hipDrvGraphMemcpyNodeGetParams
cuGraphMemcpyNodeSetParams	10.0				hipDrvGraphMemcpyNodeSetParams
cuGraphMemsetNodeGetParams	10.0				hipGraphMemsetNodeGetParams
cuGraphMemsetNodeSetParams	10.0				hipGraphMemsetNodeSetParams

Table 7.8 – continued from previous page

CUDA	A	D	C	R	HIP
cuGraphNodeFindInClone	10.0				hipGraphNodeFindInClone
cuGraphNodeGetDependencies	10.0				hipGraphNodeGetDependencies
cuGraphNodeGetDependencies_v2	12.3				
cuGraphNodeGetDependentNodes	10.0				hipGraphNodeGetDependentNodes
cuGraphNodeGetDependentNodes_v2	12.3				
cuGraphNodeGetEnabled	11.6				hipGraphNodeGetEnabled
cuGraphNodeGetType	10.0				hipGraphNodeGetType
cuGraphNodeSetEnabled	11.6				hipGraphNodeSetEnabled
cuGraphNodeSetParams	12.2				hipGraphNodeSetParams
cuGraphReleaseUserObject	11.3				hipGraphReleaseUserObject
cuGraphRemoveDependencies	10.0				hipGraphRemoveDependencies
cuGraphRemoveDependencies_v2	12.3				
cuGraphRetainUserObject	11.3				hipGraphRetainUserObject
cuGraphUpload	11.1				hipGraphUpload
cuUserObjectCreate	11.3				hipUserObjectCreate
cuUserObjectRelease	11.3				hipUserObjectRelease
cuUserObjectRetain	11.3				hipUserObjectRetain

7.2.25 25. Occupancy

CUDA	A	D	C	R	HIP	A	D	C	R	E
cuOccupancyAvailableDyna	11.0									
cuOccupancyMaxActiveBloc					hipModuleOccupancyMaxActivel	3.5.0				sor
cuOccupancyMaxActiveBloc					hipModuleOccupancyMaxActivel	3.5.0				sorWithFlags
cuOccupancyMaxActiveClus	11.8									
cuOccupancyMaxPotentialB					hipModuleOccupancyMaxPotent	3.5.0				
cuOccupancyMaxPotentialB					hipModuleOccupancyMaxPotent	3.5.0				s
cuOccupancyMaxPotentialC	11.8									

7.2.26 26. Texture Reference Management [DEPRECATED]

CUDA	A	D	C	R	HIP	A	D	C	R	E
cuTexRefCreate		11.0								
cuTexRefDestroy		11.0								
cuTexRefGetAddress		11.0			hipTexRefGetAddress	3.0.0	4.3.0			
cuTexRefGetAddressMode		11.0			hipTexRefGetAddressMode	3.0.0	4.3.0			
cuTexRefGetAddress_v2		11.0			hipTexRefGetAddress	3.0.0	4.3.0			
cuTexRefGetArray		11.0			hipTexRefGetArray	3.0.0	6.1.0			
cuTexRefGetBorderColor	8.0	11.0			hipTexRefGetBorderColor	6.1.0	6.1.0			
cuTexRefGetFilterMode		11.0			hipTexRefGetFilterMode	3.5.0	4.3.0			

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Table 7.9 – continued from previous page

CUDA	A	D	C	R	HIP	A	D	C	R	E
cuTexRefGetFlags		11.0			hipTexRefGetFlags	3.5.0	4.3.0			
cuTexRefGetFormat		11.0			hipTexRefGetFormat	3.5.0	4.3.0			
cuTexRefGetMaxAnisotropy		11.0			hipTexRefGetMaxAnisotropy	3.5.0	4.3.0			
cuTexRefGetMipmapFilterMode		11.0			hipTexRefGetMipmapFilterMode	3.5.0	4.3.0			
cuTexRefGetMipmapLevelBias		11.0			hipTexRefGetMipmapLevelBias	3.5.0	4.3.0			
cuTexRefGetMipmapLevelClamp		11.0			hipTexRefGetMipmapLevelClamp	3.5.0	4.3.0			
cuTexRefGetMipmappedArray		11.0			hipTexRefGetMipMappedArray	3.5.0	4.3.0			
cuTexRefSetAddress		11.0			hipTexRefSetAddress	1.7.0	4.3.0			
cuTexRefSetAddress2D		11.0			hipTexRefSetAddress2D	1.7.0	4.3.0			
cuTexRefSetAddress2D_v2					hipTexRefSetAddress2D	1.7.0	4.3.0			
cuTexRefSetAddress2D_v3					hipTexRefSetAddress2D	1.7.0	4.3.0			
cuTexRefSetAddressMode		11.0			hipTexRefSetAddressMode	1.9.0	5.3.0			
cuTexRefSetAddress_v2		11.0			hipTexRefSetAddress	1.7.0	4.3.0			
cuTexRefSetArray		11.0			hipTexRefSetArray	1.9.0	5.3.0			
cuTexRefSetBorderColor	8.0	11.0			hipTexRefSetBorderColor	3.5.0	4.3.0			
cuTexRefSetFilterMode		11.0			hipTexRefSetFilterMode	1.9.0	5.3.0			
cuTexRefSetFlags		11.0			hipTexRefSetFlags	1.9.0	5.3.0			
cuTexRefSetFormat		11.0			hipTexRefSetFormat	1.9.0	5.3.0			
cuTexRefSetMaxAnisotropy		11.0			hipTexRefSetMaxAnisotropy	3.5.0	4.3.0			
cuTexRefSetMipmapFilterMode		11.0			hipTexRefSetMipmapFilterMode	3.5.0	5.3.0			
cuTexRefSetMipmapLevelBias		11.0			hipTexRefSetMipmapLevelBias	3.5.0	5.3.0			
cuTexRefSetMipmapLevelClamp		11.0			hipTexRefSetMipmapLevelClamp	3.5.0	5.3.0			
cuTexRefSetMipmappedArray		11.0			hipTexRefSetMipmappedArray	3.5.0	5.3.0			

7.2.27 27. Surface Reference Management [DEPRECATED]

CUDA	A	D	C	R	HIP	A	D	C	R	E
cuSurfRefGetArray		11.0								
cuSurfRefSetArray		11.0								

7.2.28 28. Texture Object Management

CUDA	A	D	C	R	HIP	A	D	C	R	E
cuTexObjectCreate					hipTexObjectCreate	3.5.0				
cuTexObjectDestroy					hipTexObjectDestroy	3.5.0				
cuTexObjectGetResourceDesc					hipTexObjectGetResourceDesc	3.5.0				
cuTexObjectGetResourceView					hipTexObjectGetResourceView	3.5.0				
cuTexObjectGetTextureDesc					hipTexObjectGetTextureDesc	3.5.0				

7.2.29 29. Surface Object Management

CUDA	A	D	C	R	HIP	A	D	C	R	E
cuSurfObjectCreate										
cuSurfObjectDestroy										
cuSurfObjectGetResourceDesc										

7.2.30 30. Tensor Map Object Managment

CUDA	A	D	C	R	HIP	A	D	C	R	E
cuTensorMapEncodeIm2col	12.0									
cuTensorMapEncodeIm2colWide										
cuTensorMapEncodeTiled	12.0									
cuTensorMapReplaceAddress	12.0									

7.2.31 31. Peer Context Memory Access

CUDA	A	D	C	R	HIP	A	D	C	R	E
cuCtxDisablePeerAccess					hipCtxDisablePeerAccess	1.6.0	1.9.0			
cuCtxEnablePeerAccess					hipCtxEnablePeerAccess	1.6.0	1.9.0			
cuDeviceCanAccessPeer					hipDeviceCanAccessPeer	1.9.0				
cuDeviceGetP2PAttribute	8.0				hipDeviceGetP2PAttribute	3.8.0				

7.2.32 32. Graphics Interoperability

CUDA	A	D	C	R	HIP	A	D	C	R	E
cuGraphicsMapResources					hipGraphicsMapResources	4.5.0				
cuGraphicsResourceGetMappedM										
cuGraphicsResourceGetMappedP					hipGraphicsResourceGetMap	4.5.0				
cuGraphicsResourceGetMappedP					hipGraphicsResourceGetMap	4.5.0				
cuGraphicsResourceSetMapFlag										
cuGraphicsResourceSetMapFlag										
cuGraphicsSubResourceGetMapp					hipGraphicsSubResourceGet	5.1.0				
cuGraphicsUnmapResources					hipGraphicsUnmapResources	4.5.0				
cuGraphicsUnregisterResource					hipGraphicsUnregisterResc	4.5.0				

7.2.33 33. Driver Entry Point Access

CUDA	A	D	C	R	HIP	A	D	C	R	E
cuGetProcAddress	11.3		12.0		hipGetProcAddress	6.2.0				

7.2.34 34. Coredump Attributes Control API

CUDA	A	D	C	R	HIP	A	D	C	R	E
cuCoredumpGetAttribute	12.1									
cuCoredumpGetAttributeGlobal	12.1									
cuCoredumpSetAttribute	12.1									
cuCoredumpSetAttributeGlobal	12.1									

7.2.35 35. Green Contexts

CUDA	A	D	C	R	HIP	A	D	C	R	E
cuCtxFromGreenCtx	12.4									
cuCtxGetDevResource	12.4									
cuDevResourceGenerateDesc	12.4									
cuDevSmResourceSplitByCount	12.4									
cuDeviceGetDevResource	12.4									
cuGreenCtxCreate	12.4									
cuGreenCtxDestroy	12.4									
cuGreenCtxGetDevResource	12.4									
cuGreenCtxRecordEvent	12.4									
cuGreenCtxStreamCreate	12.5									
cuGreenCtxWaitEvent	12.4									
cuStreamGetGreenCtx	12.4									

7.2.36 36. Error Log Management

CUDA	A	D	C	R	HIP	A	D	C	R	E
cuLogsCurrent	12.9									
cuLogsDumpToFile	12.9									
cuLogsDumpToMemory	12.9									
cuLogsRegisterCallback	12.9									
cuLogsUnregisterCallback	12.9									

7.2.37 37. Checkpointing

CUDA	A	D	C	R	HIP	A	D	C	R	E
cuCheckpointProcessCheckpoint	12.8									
cuCheckpointProcessGetRestoreThreadId	12.8									
cuCheckpointProcessGetState	12.8									
cuCheckpointProcessLock	12.8									
cuCheckpointProcessRestore	12.8									
cuCheckpointProcessUnlock	12.8									

7.2.38 38. Profiler Control [DEPRECATED]

CUDA	A	D	C	R	HIP	A	D	C	R	E
cuProfilerInitialize		11.0								

7.2.39 39. Profiler Control

CUDA	A	D	C	R	HIP	A	D	C	R	E
cuProfilerStart					hipProfilerStart	1.6.0	3.0.0			
cuProfilerStop					hipProfilerStop	1.6.0	3.0.0			

7.2.40 40. OpenGL Interoperability

CUDA	A	D	C	R	HIP	A	D	C	R	E
cuGLCtxCreate		9.2								
cuGLGetDevices					hipGLGetDevices	4.5.0				
cuGLInit		9.2								
cuGLMapBufferObject		9.2								
cuGLMapBufferObjectAsync		9.2								
cuGLRegisterBufferObject		9.2								
cuGLSetBufferObjectMapFlag		9.2								
cuGLUnmapBufferObject		9.2								
cuGLUnmapBufferObjectAsync		9.2								
cuGLUnregisterBufferObject		9.2								
cuGraphicsGLRegisterBuffer					hipGraphicsGLRegisterBuffe	4.5.0				
cuGraphicsGLRegisterImage					hipGraphicsGLRegisterImage	5.1.0				
cuWGLGetDevice										

7.2.41 41. Direct3D 9 Interoperability

CUDA	A	D	C	R	HIP	A	D	C	R	E
cuD3D9CtxCreate										
cuD3D9CtxCreateOnDevice										
cuD3D9GetDevice										
cuD3D9GetDevices										
cuD3D9GetDirect3DDevice										
cuD3D9MapResources		9.2								
cuD3D9RegisterResource		9.2								
cuD3D9ResourceGetMappedArray		9.2								
cuD3D9ResourceGetMappedPitch		9.2								
cuD3D9ResourceGetMappedPointer		9.2								
cuD3D9ResourceGetMappedSize		9.2								
cuD3D9ResourceGetSurfaceDimensions		9.2								
cuD3D9ResourceSetMapFlags		9.2								
cuD3D9UnmapResources		9.2								
cuD3D9UnregisterResource		9.2								
cuGraphicsD3D9RegisterResource										

7.2.42 42. Direct3D 10 Interoperability

CUDA	A	D	C	R	HIP	A	D	C	R	E
cuD3D10CtxCreate		9.2								
cuD3D10CtxCreateOnDevice		9.2								
cuD3D10GetDevice										
cuD3D10GetDevices										
cuD3D10GetDirect3DDevice		9.2								
cuD3D10MapResources		9.2								
cuD3D10RegisterResource		9.2								
cuD3D10ResourceGetMappedArray		9.2								
cuD3D10ResourceGetMappedPitch		9.2								
cuD3D10ResourceGetMappedPointer		9.2								
cuD3D10ResourceGetMappedSize		9.2								
cuD3D10ResourceGetSurfaceDimensions		9.2								
cuD3D10ResourceSetMapFlags		9.2								
cuD3D10UnmapResources		9.2								
cuD3D10UnregisterResource		9.2								
cuGraphicsD3D10RegisterResource										

7.2.43 43. Direct3D 11 Interoperability

CUDA	A	D	C	R	HIP	A	D	C	R	E
cuD3D11CtxCreate		9.2								
cuD3D11CtxCreateOnDevice		9.2								
cuD3D11GetDevice										
cuD3D11GetDevices										
cuD3D11GetDirect3DDevice		9.2								
cuGraphicsD3D11RegisterResource										

7.2.44 44. VDPAU Interoperability

CUDA	A	D	C	R	HIP	A	D	C	R	E
cuGraphicsVDPAURegisterOutputSurface										
cuGraphicsVDPAURegisterVideoSurface										
cuVDPAUCtxCreate										
cuVDPAUGetDevice										

7.2.45 45. EGL Interoperability

CUDA	A	D	C	R	HIP	A	D	C	R	E
cuEGLStreamConsumerAcquireFrame	9.1									
cuEGLStreamConsumerConnect	9.1									
cuEGLStreamConsumerConnectWithFlags	9.1									
cuEGLStreamConsumerDisconnect	9.1									
cuEGLStreamConsumerReleaseFrame	9.1									
cuEGLStreamProducerConnect	9.1									
cuEGLStreamProducerDisconnect	9.1									
cuEGLStreamProducerPresentFrame	9.1									
cuEGLStreamProducerReturnFrame	9.1									
cuEventCreateFromEGLSync	9.1									
cuGraphicsEGLRegisterImage	9.1									
cuGraphicsResourceGetMappedEglFrame	9.1									

7.3 CUCOMPLEX API supported by HIP

Note: In the tables that follow the columns marked A, D, C, R, and E mean the following: **A** - Added; **D** - Deprecated; **C** - Changed; **R** - Removed; **E** - Experimental

7.3.1 1. cuComplex Data types

CUDA	A	D	C	R	HIP	A	D	C	R	E
cuComplex					hipComplex	1.6.0				
cuDoubleComplex					hipDoubleComplex	1.6.0				
cuFloatComplex					hipFloatComplex	1.6.0				

7.3.2 2. cuComplex API functions

CUDA	A	D	C	R	HIP	A	D	C	R	E
cuCabs					hipCabs	1.6.0				
cuCabsf					hipCabsf	1.6.0				
cuCadd					hipCadd	1.6.0				
cuCaddf					hipCaddf	1.6.0				
cuCdiv					hipCdiv	1.6.0				
cuCdivf					hipCdivf	1.6.0				
cuCfma					hipCfma	1.6.0				
cuCfmaf					hipCfmaf	1.6.0				
cuCimag					hipCimag	1.6.0				
cuCimagf					hipCimagf	1.6.0				
cuCmul					hipCmul	1.6.0				
cuCmulf					hipCmulf	1.6.0				
cuComplexDoubleToFloat					hipComplexDoubleToFloat	1.6.0				
cuComplexFloatToDouble					hipComplexFloatToDouble	1.6.0				
cuConj					hipConj	1.6.0				
cuConjf					hipConjf	1.6.0				
cuCreal					hipCreal	1.6.0				
cuCrealf					hipCrealf	1.6.0				
cuCsub					hipCsub	1.6.0				
cuCsubf					hipCsubf	1.6.0				
make_cuComplex					make_hipComplex	1.6.0				
make_cuDoubleComplex					make_hipDoubleComplex	1.6.0				
make_cuFloatComplex					make_hipFloatComplex	1.6.0				

7.4 CUDA DEVICE API supported by HIP

Note: In the tables that follow the columns marked A, D, C, R, and E mean the following: **A** - Added; **D** - Deprecated; **C** - Changed; **R** - Removed; **E** - Experimental

7.4.1 1. Device Functions

CUDA	A	D	C	R	HIP	A	D	C	R
_Pow_int									
__activemask	9.0				__activemask	6.2.0			
__all					__all	1.6.0			
__all_sync	9.0				__all_sync	6.2.0			
__any					__any	1.6.0			
__any_sync	9.0				__any_sync	6.2.0			
__assert_fail					__assert_fail	1.9.0			
__assertfail					__assertfail	1.9.0			
__ballot					__ballot	1.6.0			
__ballot_sync	9.0				__ballot_sync	6.2.0			
__bfloat1622float2	11.0				__bfloat1622float2	5.7.0			
__bfloat162bfloat162	11.0		12.2		__bfloat162bfloat162	5.7.0			
__bfloat162char_rz	12.2								
__bfloat162float	11.0				__bfloat162float	5.7.0			
__bfloat162int_rd	11.0								
__bfloat162int_rn	11.0								
__bfloat162int_ru	11.0								
__bfloat162int_rz	11.0								
__bfloat162ll_rd	11.0								
__bfloat162ll_rn	11.0								
__bfloat162ll_ru	11.0								
__bfloat162ll_rz	11.0								
__bfloat162short_rd	11.0								
__bfloat162short_rn	11.0								
__bfloat162short_ru	11.0								
__bfloat162short_rz	11.0								
__bfloat162uchar_rz	12.2								
__bfloat162uint_rd	11.0								
__bfloat162uint_rn	11.0								
__bfloat162uint_ru	11.0								
__bfloat162uint_rz	11.0								
__bfloat162ull_rd	11.0								
__bfloat162ull_rn	11.0								
__bfloat162ull_ru	11.0								
__bfloat162ull_rz	11.0								
__bfloat162ushort_rd	11.0								
__bfloat162ushort_rn	11.0								
__bfloat162ushort_ru	11.0								
__bfloat162ushort_rz	11.0								
__bfloat16_as_short	11.0		12.2		__bfloat16_as_short	5.7.0			
__bfloat16_as_ushort	11.0		12.2		__bfloat16_as_ushort	5.7.0			
__brev					__brev	1.6.0			
__brevll					__brevll	1.6.0			
__brkpt									

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Table 7.10 – continued from previous page

CUDA	A	D	C	R	HIP	A	D	C	R
__byte_perm					__byte_perm	1.6.0			
__clz					__clz	1.6.0			
__clzll					__clzll	1.6.0			
__cosf					__cosf	1.6.0			
__dadd_rd									
__dadd_rn					__dadd_rn	1.6.0			
__dadd_ru									
__dadd_rz									
__ddiv_rd									
__ddiv_rn					__ddiv_rn	1.6.0			
__ddiv_ru									
__ddiv_rz									
__dmul_rd									
__dmul_rn					__dmul_rn	1.6.0			
__dmul_ru									
__dmul_rz									
__double2bfloat16	11.0				__double2bfloat16	5.7.0			
__double2float_rd					__double2float_rd	1.6.0			
__double2float_rn					__double2float_rn	1.6.0			
__double2float_ru					__double2float_ru	1.6.0			
__double2float_rz					__double2float_rz	1.6.0			
__double2half	11.0								
__double2hiint					__double2hiint	1.6.0			
__double2int_rd					__double2int_rd	1.6.0			
__double2int_rn					__double2int_rn	1.6.0			
__double2int_ru					__double2int_ru	1.6.0			
__double2int_rz					__double2int_rz	1.6.0			
__double2ll_rd					__double2ll_rd	1.6.0			
__double2ll_rn					__double2ll_rn	1.6.0			
__double2ll_ru					__double2ll_ru	1.6.0			
__double2ll_rz					__double2ll_rz	1.6.0			
__double2loint					__double2loint	1.6.0			
__double2uint_rd					__double2uint_rd	1.6.0			
__double2uint_rn					__double2uint_rn	1.6.0			
__double2uint_ru					__double2uint_ru	1.6.0			
__double2uint_rz					__double2uint_rz	1.6.0			
__double2ull_rd					__double2ull_rd	1.6.0			
__double2ull_rn					__double2ull_rn	1.6.0			
__double2ull_ru					__double2ull_ru	1.6.0			
__double2ull_rz					__double2ull_rz	1.6.0			
__double_as_longlong					__double_as_longlong	1.6.0			
__drcp_rd									
__drcp_rn					__drcp_rn	1.6.0			
__drcp_ru									
__drcp_rz									
__dsqrt_rd									
__dsqrt_rn					__dsqrt_rn	1.6.0			
__dsqrt_ru									
__dsqrt_rz									
__dsub_rd									

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Table 7.10 – continued from previous page

CUDA	A	D	C	R	HIP	A	D	C	R
__dsub_rn					__dsub_rn	1.6.0			
__dsub_ru									
__dsub_rz									
__exp10f					__exp10f	1.6.0			
__expf					__expf	1.6.0			
__fadd_rd									
__fadd_rn					__fadd_rn	1.6.0			
__fadd_ru									
__fadd_rz									
__fdiv_rd									
__fdiv_rn					__fdiv_rn	1.6.0			
__fdiv_ru									
__fdiv_rz									
__fdividef					__fdividef	1.6.0			
__ffs					__ffs	1.6.0			
__ffsll					__ffsll	1.6.0			
__finite									
__finitef									
__finitel									
__float22bfloat162_rn	11.0				__float22bfloat162_rn	5.7.0			
__float22half2_rn					__float22half2_rn	1.6.0			
__float2bfloat16	11.0				__float2bfloat16	5.7.0			
__float2bfloat162_rn	11.0								
__float2bfloat16_rd	11.0								
__float2bfloat16_rn	11.0								
__float2bfloat16_ru	11.0								
__float2bfloat16_rz	11.0								
__float2half					__float2half	1.6.0			
__float2half2_rn					__float2half2_rn	1.6.0			
__float2half_rd					__float2half_rd	1.6.0			
__float2half_rn					__float2half_rn	1.6.0			
__float2half_ru					__float2half_ru	1.6.0			
__float2half_rz					__float2half_rz	1.6.0			
__float2int_rd					__float2int_rd	1.6.0			
__float2int_rn					__float2int_rn	1.6.0			
__float2int_ru					__float2int_ru	1.6.0			
__float2int_rz					__float2int_rz	1.6.0			
__float2ll_rd					__float2ll_rd	1.6.0			
__float2ll_rn					__float2ll_rn	1.6.0			
__float2ll_ru					__float2ll_ru	1.6.0			
__float2ll_rz					__float2ll_rz	1.6.0			
__float2uint_rd					__float2uint_rd	1.6.0			
__float2uint_rn					__float2uint_rn	1.6.0			
__float2uint_ru					__float2uint_ru	1.6.0			
__float2uint_rz					__float2uint_rz	1.6.0			
__float2ull_rd					__float2ull_rd	1.6.0			
__float2ull_rn					__float2ull_rn	1.6.0			
__float2ull_ru					__float2ull_ru	1.6.0			
__float2ull_rz					__float2ull_rz	1.6.0			
__float_as_int					__float_as_int	1.6.0			

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Table 7.10 – continued from previous page

CUDA	A	D	C	R	HIP	A	D	C	R
__float_as_uint					__float_as_uint	1.6.0			
__floats2bfloat162_rn	11.0								
__floats2half2_rn					__floats2half2_rn	1.6.0			
__fma_rd									
__fma_rn					__fma_rn	1.6.0			
__fma_ru									
__fma_rz									
__fmaf_rd									
__fmaf_rn					__fmaf_rn	1.6.0			
__fmaf_ru									
__fmaf_rz									
__fmul_rd									
__fmul_rn					__fmul_rn	1.6.0			
__fmul_ru									
__fmul_rz									
__frcp_rd									
__frcp_rn					__frcp_rn	1.6.0			
__frcp_ru									
__frcp_rz									
__frsqrt_rn					__frsqrt_rn	1.6.0			
__fsqrt_rd									
__fsqrt_rn					__fsqrt_rn	1.6.0			
__fsqrt_ru									
__fsqrt_rz									
__fsub_rd									
__fsub_rn					__fsub_rn	1.6.0			
__fsub_ru									
__fsub_rz									
__funnelshift_l					__funnelshift_l	4.4.0			
__funnelshift_lc					__funnelshift_lc	4.4.0			
__funnelshift_r					__funnelshift_r	4.4.0			
__funnelshift_rc					__funnelshift_rc	4.4.0			
__h2div					__h2div	1.9.0			
__habs					__habs	3.5.0			
__habs2					__habs2	3.5.0			
__hadd					__hadd	1.6.0			
__hadd2					__hadd2	1.6.0			
__hadd2_rn	11.6								
__hadd2_sat					__hadd2_sat	1.6.0			
__hadd_rn	11.6								
__hadd_sat					__hadd_sat	1.6.0			
__half22float2					__half22float2	1.6.0			
__half2char_rz	12.2								
__half2float					__half2float	1.6.0			
__half2half2					__half2half2	1.9.0			
__half2int_rd					__half2int_rd	1.6.0			
__half2int_rn					__half2int_rn	1.6.0			
__half2int_ru					__half2int_ru	1.6.0			
__half2int_rz					__half2int_rz	1.6.0			
__half2ll_rd					__half2ll_rd	1.6.0			

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Table 7.10 – continued from previous page

CUDA	A	D	C	R	HIP	A	D	C	R
__half2ll_rn					__half2ll_rn	1.6.0			
__half2ll_ru					__half2ll_ru	1.6.0			
__half2ll_rz					__half2ll_rz	1.6.0			
__half2short_rd					__half2short_rd	1.6.0			
__half2short_rn					__half2short_rn	1.6.0			
__half2short_ru					__half2short_ru	1.6.0			
__half2short_rz					__half2short_rz	1.6.0			
__half2uchar_rz	12.2								
__half2uint_rd					__half2uint_rd	1.6.0			
__half2uint_rn					__half2uint_rn	1.6.0			
__half2uint_ru					__half2uint_ru	1.6.0			
__half2uint_rz					__half2uint_rz	1.6.0			
__half2ull_rd					__half2ull_rd	1.6.0			
__half2ull_rn					__half2ull_rn	1.6.0			
__half2ull_ru					__half2ull_ru	1.6.0			
__half2ull_rz					__half2ull_rz	1.6.0			
__half2ushort_rd					__half2ushort_rd	1.6.0			
__half2ushort_rn					__half2ushort_rn	1.6.0			
__half2ushort_ru					__half2ushort_ru	1.6.0			
__half2ushort_rz					__half2ushort_rz	1.6.0			
__half_as_short					__half_as_short	1.6.0			
__half_as_ushort					__half_as_ushort	1.6.0			
__halves2bfloat162	11.0		12.2		__halves2bfloat162	5.7.0			
__halves2half2					__halves2half2	1.6.0			
__hbeq2					__hbeq2	1.6.0			
__hbequ2					__hbequ2	1.9.0			
__hbge2					__hbge2	1.6.0			
__hbgeu2					__hbgeu2	1.9.0			
__hbgt2					__hbgt2	1.6.0			
__hbgtu2					__hbgtu2	1.9.0			
__hble2					__hble2	1.6.0			
__hbleu2					__hbleu2	1.9.0			
__hblt2					__hblt2	1.6.0			
__hbltu2					__hbltu2	1.9.0			
__hbne2					__hbne2	1.6.0			
__hbneu2					__hbneu2	1.9.0			
__hcmadd	11.1								
__hdiv					__hdiv	1.9.0			
__heq					__heq	1.6.0			
__heq2					__heq2	1.6.0			
__heq2_mask	12.0								
__hequ					__hequ	1.9.0			
__hequ2					__hequ2	1.9.0			
__hequ2_mask	12.0								
__hfma					__hfma	1.6.0			
__hfma2					__hfma2	1.6.0			
__hfma2_relu	11.0								
__hfma2_sat					__hfma2_sat	1.6.0			
__hfma_relu	11.0								
__hfma_sat					__hfma_sat	1.6.0			

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Table 7.10 – continued from previous page

CUDA	A	D	C	R	HIP	A	D	C	R
__hge					__hge	1.6.0			
__hge2					__hge2	1.6.0			
__hge2_mask	12.0								
__hgeu					__hgeu	1.9.0			
__hgeu2					__hgeu2	1.9.0			
__hgeu2_mask	12.0								
__hgt					__hgt	1.6.0			
__hgt2					__hgt2	1.6.0			
__hgt2_mask	12.0								
__hgtu					__hgtu	1.9.0			
__hgtu2					__hgtu2	1.9.0			
__hgtu2_mask	12.0								
__high2bfloat16	11.0		12.2		__high2bfloat16	5.7.0			
__high2bfloat162	11.0		12.2		__high2bfloat162	5.7.0			
__high2float					__high2float	1.6.0			
__high2half					__high2half	1.6.0			
__high2half2					__high2half2	1.6.0			
__highs2bfloat162	11.0		12.2		__highs2bfloat162	5.7.0			
__highs2half2					__highs2half2	1.6.0			
__hiloint2double					__hiloint2double	1.6.0			
__hisinf					__hisinf	1.6.0			
__hisnan					__hisnan	1.6.0			
__hisnan2					__hisnan2	1.6.0			
__hle					__hle	1.6.0			
__hle2					__hle2	1.6.0			
__hle2_mask	12.0								
__hleu					__hleu	1.9.0			
__hleu2					__hleu2	1.9.0			
__hleu2_mask	12.0								
__hlt					__hlt	1.6.0			
__hlt2					__hlt2	1.6.0			
__hlt2_mask	12.0								
__hltu					__hltu	1.9.0			
__hltu2					__hltu2	1.9.0			
__hltu2_mask	12.0								
__hmax	11.0				__hmax	5.5.0			
__hmax2	11.0		12.2		__hmax2	5.7.0			
__hmax2_nan	11.0								
__hmax_nan	11.0				__hmax_nan	5.5.0			
__hmin	11.0				__hmin	5.5.0			
__hmin2	11.0		12.2		__hmin2	5.7.0			
__hmin2_nan	11.0								
__hmin_nan	11.0				__hmin_nan	5.5.0			
__hmul					__hmul	1.6.0			
__hmul2					__hmul2	1.6.0			
__hmul2_rn	11.6								
__hmul2_sat					__hmul2_sat	1.6.0			
__hmul_rn	11.6								
__hmul_sat					__hmul_sat	1.6.0			
__hne					__hne	1.6.0			

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Table 7.10 – continued from previous page

CUDA	A	D	C	R	HIP	A	D	C	R
__hne2					__hne2	1.6.0			
__hne2_mask	12.0								
__hneg					__hneg	1.6.0			
__hneg2					__hneg2	1.6.0			
__hneu					__hneu	1.9.0			
__hneu2					__hneu2	1.9.0			
__hneu2_mask	12.0								
__hsub					__hsub	1.6.0			
__hsub2					__hsub2	1.6.0			
__hsub2_rn	11.6								
__hsub2_sat					__hsub2_sat	1.6.0			
__hsub_rn	11.6								
__hsub_sat					__hsub_sat	1.6.0			
__int2bfloat16_rd	11.0								
__int2bfloat16_rn	11.0								
__int2bfloat16_ru	11.0								
__int2bfloat16_rz	11.0								
__int2double_rn					__int2double_rn	1.6.0			
__int2float_rd					__int2float_rd	1.6.0			
__int2float_rn					__int2float_rn	1.6.0			
__int2float_ru					__int2float_ru	1.6.0			
__int2float_rz					__int2float_rz	1.6.0			
__int2half_rd					__int2half_rd	1.6.0			
__int2half_rn					__int2half_rn	1.6.0			
__int2half_ru					__int2half_ru	1.6.0			
__int2half_rz					__int2half_rz	1.6.0			
__int_as_float					__int_as_float	1.6.0			
__isinf									
__isinff									
__isinfl									
__isnan									
__isnanf									
__isnanl									
__ldca					__ldca	1.9.0			
__ldcg					__ldcg	1.9.0			
__ldcs					__ldcs	1.9.0			
__ldcv	11.0								
__ldg					__ldg	1.6.0			
__ldlu	11.0								
__ll2bfloat16_rd	11.0								
__ll2bfloat16_rn	11.0								
__ll2bfloat16_ru	11.0								
__ll2bfloat16_rz	11.0								
__ll2double_rd					__ll2double_rd	1.6.0			
__ll2double_rn					__ll2double_rn	1.6.0			
__ll2double_ru					__ll2double_ru	1.6.0			
__ll2double_rz					__ll2double_rz	1.6.0			
__ll2float_rd					__ll2float_rd	1.6.0			
__ll2float_rn					__ll2float_rn	1.6.0			
__ll2float_ru					__ll2float_ru	1.6.0			

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Table 7.10 – continued from previous page

CUDA	A	D	C	R	HIP	A	D	C	R
__ll2float_rz					__ll2float_rz	1.6.0			
__ll2half_rd					__ll2half_rd	1.6.0			
__ll2half_rn					__ll2half_rn	1.6.0			
__ll2half_ru					__ll2half_ru	1.6.0			
__ll2half_rz					__ll2half_rz	1.6.0			
__log10f					__log10f	1.6.0			
__log2f					__log2f	1.6.0			
__logf					__logf	1.6.0			
__longlong_as_double					__longlong_as_double	1.6.0			
__low2bfloat16	11.0		12.2		__low2bfloat16	5.7.0			
__low2bfloat162	11.0		12.2		__low2bfloat162	5.7.0			
__low2float					__low2float	1.6.0			
__low2half					__low2half	1.6.0			
__low2half2					__low2half2	1.6.0			
__lowhigh2highlow					__lowhigh2highlow	1.6.0			
__lows2bfloat162	11.0		12.2		__lows2bfloat162	5.7.0			
__lows2half2					__lows2half2	1.6.0			
__match_all_sync	9.0				__match_all_sync	6.2.0			
__match_any_sync	9.0				__match_any_sync	6.2.0			
__mul24					__mul24	1.6.0			
__mul64hi					__mul64hi	1.6.0			
__mulhi					__mulhi	1.6.0			
__nv_bswap16	12.8								
__nv_bswap32	12.8								
__nv_bswap64	12.8								
__nv_cvt_bfloat162raw_to_e8m0x2	12.8								
__nv_cvt_bfloat16raw2_to_fp4x2	12.8				__hip_cvt_bfloat16raw2_to_fp4x2	7.0.0			
__nv_cvt_bfloat16raw2_to_fp6x2	12.8								
__nv_cvt_bfloat16raw2_to_fp8x2	11.8				__hip_cvt_bfloat16raw2_to_fp8x2	6.2.0			
__nv_cvt_bfloat16raw_to_e8m0	12.8								
__nv_cvt_bfloat16raw_to_fp4	12.8				__hip_cvt_bfloat16raw_to_fp4	7.0.0			
__nv_cvt_bfloat16raw_to_fp6	12.8								
__nv_cvt_bfloat16raw_to_fp8	11.8				__hip_cvt_bfloat16raw_to_fp8	6.2.0			
__nv_cvt_double2_to_e8m0x2	12.8								
__nv_cvt_double2_to_fp4x2	12.8				__hip_cvt_double2_to_fp4x2	7.0.0			
__nv_cvt_double2_to_fp6x2	12.8								
__nv_cvt_double2_to_fp8x2	11.8				__hip_cvt_double2_to_fp8x2	6.2.0			
__nv_cvt_double_to_e8m0	12.8								
__nv_cvt_double_to_fp4	12.8				__hip_cvt_double_to_fp4	7.0.0			
__nv_cvt_double_to_fp6	12.8								
__nv_cvt_double_to_fp8	11.8				__hip_cvt_double_to_fp8	6.2.0			
__nv_cvt_e8m0_to_bf16raw	12.8								
__nv_cvt_e8m0x2_to_bf162raw	12.8								
__nv_cvt_float2_to_e8m0x2	12.8								
__nv_cvt_float2_to_fp4x2	12.8				__hip_cvt_float2_to_fp4x2	7.0.0			
__nv_cvt_float2_to_fp6x2	12.8								
__nv_cvt_float2_to_fp8x2	11.8				__hip_cvt_float2_to_fp8x2	6.2.0			
__nv_cvt_float_to_e8m0	12.8								
__nv_cvt_float_to_fp4	12.8				__hip_cvt_float_to_fp4	7.0.0			
__nv_cvt_float_to_fp6	12.8								

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Table 7.10 – continued from previous page

CUDA	A	D	C	R	HIP	A	D	C	R
__nv_cvt_float_to_fp8	11.8				__hip_cvt_float_to_fp8	6.2.0			
__nv_cvt_fp4_to_halfraw	12.8				__hip_cvt_fp4_to_halfraw	7.0.0			
__nv_cvt_fp4x2_to_halfraw2	12.8				__hip_cvt_fp4x2_to_halfraw2	7.0.0			
__nv_cvt_fp6_to_halfraw	12.8								
__nv_cvt_fp6x2_to_halfraw2	12.8								
__nv_cvt_fp8_to_halfraw	11.8				__hip_cvt_fp8_to_halfraw	6.2.0			
__nv_cvt_fp8x2_to_halfraw2	11.8				__hip_cvt_fp8x2_to_halfraw2	6.2.0			
__nv_cvt_halfraw2_to_fp4x2	12.8				__hip_cvt_halfraw2_to_fp4x2	7.0.0			
__nv_cvt_halfraw2_to_fp6x2	12.8								
__nv_cvt_halfraw2_to_fp8x2	11.8				__hip_cvt_halfraw2_to_fp8x2	6.2.0			
__nv_cvt_halfraw_to_fp4	12.8				__hip_cvt_halfraw_to_fp4	7.0.0			
__nv_cvt_halfraw_to_fp6	12.8								
__nv_cvt_halfraw_to_fp8	11.8				__hip_cvt_halfraw_to_fp8	6.2.0			
__nv_fp128_acos	12.8								
__nv_fp128_acosh	12.8								
__nv_fp128_add	12.8								
__nv_fp128_asin	12.8								
__nv_fp128_asinh	12.8								
__nv_fp128_atan	12.8								
__nv_fp128_atanh	12.8								
__nv_fp128_ceil	12.8								
__nv_fp128_copysign	12.8								
__nv_fp128_cos	12.8								
__nv_fp128_cosh	12.8								
__nv_fp128_div	12.8								
__nv_fp128_exp	12.8								
__nv_fp128_exp10	12.8								
__nv_fp128_exp2	12.8								
__nv_fp128_expm1	12.8								
__nv_fp128_fabs	12.8								
__nv_fp128_fdim	12.8								
__nv_fp128_floor	12.8								
__nv_fp128_fma	12.8								
__nv_fp128_fmax	12.8								
__nv_fp128_fmin	12.8								
__nv_fp128_fmod	12.8								
__nv_fp128_frexp	12.8								
__nv_fp128_hypot	12.8								
__nv_fp128_ilogb	12.8								
__nv_fp128_isnan	12.8								
__nv_fp128_isunordered	12.8								
__nv_fp128_ldexp	12.8								
__nv_fp128_log	12.8								
__nv_fp128_log10	12.8								
__nv_fp128_log1p	12.8								
__nv_fp128_log2	12.8								
__nv_fp128_modf	12.8								
__nv_fp128_mul	12.8								
__nv_fp128_pow	12.8								
__nv_fp128_remainder	12.8								

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Table 7.10 – continued from previous page

CUDA	A	D	C	R	HIP	A	D	C	R
__nv_fp128_rint	12.8								
__nv_fp128_round	12.8								
__nv_fp128_sin	12.8								
__nv_fp128_sinh	12.8								
__nv_fp128_sqrt	12.8								
__nv_fp128_sub	12.8								
__nv_fp128_tan	12.8								
__nv_fp128_tanh	12.8								
__nv_fp128_trunc	12.8								
__pm0									
__pm1									
__pm2									
__pm3									
__popc					__popc	1.6.0			
__popcll					__popcll	1.6.0			
__powf					__powf	1.6.0			
__prof_trigger									
__rhadd					__rhadd	1.6.0			
__sad					__sad	1.6.0			
__saturatef					__saturatef	1.6.0			
__shfl	7.5	9.0			__shfl	1.6.0			
__shfl_down	7.5	9.0			__shfl_down	1.6.0			
__shfl_down_sync	9.0				__shfl_down_sync	6.2.0			
__shfl_sync	9.0				__shfl_sync	6.2.0			
__shfl_up	7.5	9.0			__shfl_up	1.6.0			
__shfl_up_sync	9.0				__shfl_up_sync	6.2.0			
__shfl_xor	7.5	9.0			__shfl_xor	1.6.0			
__shfl_xor_sync	9.0				__shfl_xor_sync	6.2.0			
__short2bfloat16_rd	11.0								
__short2bfloat16_rn	11.0								
__short2bfloat16_ru	11.0								
__short2bfloat16_rz	11.0								
__short2half_rd					__short2half_rd	1.6.0			
__short2half_rn					__short2half_rn	1.6.0			
__short2half_ru					__short2half_ru	1.6.0			
__short2half_rz					__short2half_rz	1.6.0			
__short_as_bfloat16	11.0		12.2		__short_as_bfloat16	5.7.0			
__short_as_half					__short_as_half	1.9.0			
__signbit									
__signbitf									
__signbitl									
__sincosf					__sincosf	1.6.0			
__sinf					__sinf	1.6.0			
__stcg	11.0								
__stcs	11.0								
__stwb	11.0								
__stwt	11.0								
__syncthreads					__syncthreads	1.6.0			
__syncthreads_and					__syncthreads_and	3.7.0			
__syncthreads_count					__syncthreads_count	3.7.0			

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Table 7.10 – continued from previous page

CUDA	A	D	C	R	HIP	A	D	C	R
__syncthreads_or					__syncthreads_or	3.7.0			
__tanf					__tanf	1.6.0			
__threadfence					__threadfence	1.6.0			
__threadfence_block					__threadfence_block	1.6.0			
__threadfence_system					__threadfence_system	1.6.0			
__trap									
__uhadd					__uhadd	1.6.0			
__uint2bfloat16_rd	11.0								
__uint2bfloat16_rn	11.0								
__uint2bfloat16_ru	11.0								
__uint2bfloat16_rz	11.0								
__uint2double_rn					__uint2double_rn	1.6.0			
__uint2float_rd					__uint2float_rd	1.6.0			
__uint2float_rn					__uint2float_rn	1.6.0			
__uint2float_ru					__uint2float_ru	1.6.0			
__uint2float_rz					__uint2float_rz	1.6.0			
__uint2half_rd					__uint2half_rd	1.6.0			
__uint2half_rn					__uint2half_rn	1.6.0			
__uint2half_ru					__uint2half_ru	1.6.0			
__uint2half_rz					__uint2half_rz	1.6.0			
__uint_as_float					__uint_as_float	1.6.0			
__ull2bfloat16_rd	11.0								
__ull2bfloat16_rn	11.0								
__ull2bfloat16_ru	11.0								
__ull2bfloat16_rz	11.0								
__ull2double_rd					__ull2double_rd	1.6.0			
__ull2double_rn					__ull2double_rn	1.6.0			
__ull2double_ru					__ull2double_ru	1.6.0			
__ull2double_rz					__ull2double_rz	1.6.0			
__ull2float_rd					__ull2float_rd	1.6.0			
__ull2float_rn					__ull2float_rn	1.6.0			
__ull2float_ru					__ull2float_ru	1.6.0			
__ull2float_rz					__ull2float_rz	1.6.0			
__ull2half_rd					__ull2half_rd	1.6.0			
__ull2half_rn					__ull2half_rn	1.6.0			
__ull2half_ru					__ull2half_ru	1.6.0			
__ull2half_rz					__ull2half_rz	1.6.0			
__umul24					__umul24	1.6.0			
__umul64hi					__umul64hi	1.6.0			
__umulhi					__umulhi	1.6.0			
__urhadd					__urhadd	1.6.0			
__usad					__usad	1.6.0			
__ushort2bfloat16_rd	11.0								
__ushort2bfloat16_rn	11.0								
__ushort2bfloat16_ru	11.0								
__ushort2bfloat16_rz	11.0								
__ushort2half_rd					__ushort2half_rd	1.6.0			
__ushort2half_rn					__ushort2half_rn	1.6.0			
__ushort2half_ru					__ushort2half_ru	1.6.0			
__ushort2half_rz					__ushort2half_rz	1.6.0			

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Table 7.10 – continued from previous page

CUDA	A	D	C	R	HIP	A	D	C	R
__ushort_as_bfloat16	11.0		12.2		__ushort_as_bfloat16	5.7.0			
__ushort_as_half					__ushort_as_half	1.6.0			
__vabs2									
__vabs4									
__vabsdiffs2									
__vabsdiffs4									
__vabsdiffu2									
__vabsdiffu4									
__vabsss2									
__vabsss4									
__vadd2									
__vadd4									
__vaddss2									
__vaddss4									
__vaddus2									
__vaddus4									
__vavgs2									
__vavgs4									
__vavgu2									
__vavgu4									
__vcmpeq2									
__vcmpeq4									
__vcmpges2									
__vcmpges4									
__vcmpgeu2									
__vcmpgeu4									
__vcmpgts2									
__vcmpgts4									
__vcmpgtu2									
__vcmpgtu4									
__vcmples2									
__vcmples4									
__vcmpleu4									
__vcmplts2									
__vcmplts4									
__vcmpltu2									
__vcmpltu4									
__vcmpne2									
__vcmpne4									
__vhaddu2									
__vhaddu4									
__vmaxs2									
__vmaxs4									
__vmaxu2									
__vmaxu4									
__vmins2									
__vmins4									
__vminu2									
__vminu4									
__vneg2									

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Table 7.10 – continued from previous page

CUDA	A	D	C	R	HIP	A	D	C	R
__vneg4									
__vnegss2									
__vnegss4									
__vsads2									
__vsads4									
__vsadu2									
__vsadu4									
__vseteq2									
__vseteq4									
__vsetges2									
__vsetges4									
__vsetgeu2									
__vsetgeu4									
__vsetgts2									
__vsetgts4									
__vsetgtu4									
__vsetles2									
__vsetles4									
__vsetleu2									
__vsetleu4									
__vsetlts2									
__vsetlts4									
__vsetltu2									
__vsetltu4									
__vsetne2									
__vsetne4									
__vsub2									
__vsub4									
__vsubss2									
__vsubss4									
__vsubus2									
__vsubus4									
_fdsign									
_ldsign									
abs					abs	1.6.0			
acos					acos	1.6.0			
acosf					acosf	1.6.0			
acosh					acosh	1.6.0			
acoshf					acoshf	1.6.0			
asin					asin	1.6.0			
asinf					asinf	1.6.0			
asinh					asinh	1.6.0			
asinhf					asinhf	1.6.0			
atan					atan	1.6.0			
atan2					atan2	1.6.0			
atan2f					atan2f	1.6.0			
atanf					atanf	1.6.0			
atanh					atanh	1.6.0			
atanhf					atanhf	1.6.0			
atomicAdd					atomicAdd	1.6.0			

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Table 7.10 – continued from previous page

CUDA	A	D	C	R	HIP	A	D	C	R
atomicAdd_system					atomicAdd_system	4.3.0			
atomicAnd					atomicAnd	1.6.0			
atomicAnd_system					atomicAnd_system	4.3.0			
atomicCAS					atomicCAS	1.6.0			
atomicCAS_system					atomicCAS_system	4.3.0			
atomicDec					atomicDec	1.6.0			
atomicExch					atomicExch	1.6.0			
atomicExch_system					atomicExch_system	4.3.0			
atomicInc					atomicInc	1.6.0			
atomicMax					atomicMax	1.6.0			
atomicMax_system					atomicMax_system	4.3.0			
atomicMin					atomicMin	1.6.0			
atomicMin_system					atomicMin_system	4.3.0			
atomicOr					atomicOr	1.6.0			
atomicOr_system					atomicOr_system	4.3.0			
atomicSub					atomicSub	1.6.0			
atomicSub_system					atomicSub_system	4.3.0			
atomicXor					atomicXor	1.6.0			
atomicXor_system					atomicXor_system	4.3.0			
cbrt					cbrt	1.6.0			
cbrtf					cbrtf	1.6.0			
ceil					ceil	1.6.0			
ceilf					ceilf	1.6.0			
clock					clock	1.6.0			
clock64					clock64	1.6.0			
copysign					copysign	1.6.0			
copysignf					copysignf	1.6.0			
cos					cos	1.6.0			
cosf					cosf	1.6.0			
cosh					cosh	1.6.0			
coshf					coshf	1.6.0			
cospi					cospi	1.6.0			
cospif					cospif	1.6.0			
cyl_bessel_i0					cyl_bessel_i0	1.9.0			
cyl_bessel_i0f					cyl_bessel_i0f	1.9.0			
cyl_bessel_i1					cyl_bessel_i1	1.9.0			
cyl_bessel_i1f					cyl_bessel_i1f	1.9.0			
erf					erf	1.6.0			
erfc					erfc	1.6.0			
erfcf					erfcf	1.6.0			
erfcinv					erfcinv	1.6.0			
erfcinvf					erfcinvf	1.6.0			
erfcx					erfcx	1.6.0			
erfcxf					erfcxf	1.6.0			
erff					erff	1.6.0			
erfinv					erfinv	1.6.0			
erfinvf					erfinvf	1.6.0			
exp					exp	1.6.0			
exp10					exp10	1.6.0			
exp10f					exp10f	1.6.0			

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Table 7.10 – continued from previous page

CUDA	A	D	C	R	HIP	A	D	C	R
exp2					exp2	1.6.0			
exp2f					exp2f	1.6.0			
expf					expf	1.6.0			
expm1					expm1	1.6.0			
expm1f					expm1f	1.6.0			
fabs					fabs	1.6.0			
fabsf					fabsf	1.6.0			
fdim					fdim	1.6.0			
fdimf					fdimf	1.6.0			
fdivide									
fdividef					fdividef	1.6.0			
float2int									
float_as_int									
float_as_uint									
floor					floor	1.6.0			
floorf					floorf	1.6.0			
fma					fma	1.6.0			
fmaf					fmaf	1.6.0			
fmax					fmax	1.6.0			
fmaxf					fmaxf	1.6.0			
fmin					fmin	1.6.0			
fminf					fminf	1.6.0			
fmod					fmod	1.6.0			
fmodf					fmodf	1.6.0			
frexp					frexp	1.6.0			
frexpf					frexpf	1.6.0			
h2ceil					h2ceil	1.6.0			
h2cos					h2cos	1.6.0			
h2exp					h2exp	1.6.0			
h2exp10					h2exp10	1.6.0			
h2exp2					h2exp2	1.6.0			
h2floor					h2floor	1.6.0			
h2log					h2log	1.6.0			
h2log10					h2log10	1.6.0			
h2log2					h2log2	1.6.0			
h2rcp					h2rcp	1.6.0			
h2rint					h2rint	1.9.0			
h2rsqrt					h2rsqrt	1.6.0			
h2sin					h2sin	1.6.0			
h2sqrt					h2sqrt	1.6.0			
h2tanh	12.8								
h2tanh_approx	12.8								
h2trunc					h2trunc	1.6.0			
hceil					hceil	1.6.0			
hcos					hcos	1.6.0			
hexp					hexp	1.6.0			
hexp10					hexp10	1.6.0			
hexp2					hexp2	1.6.0			
hfloor					hfloor	1.6.0			
hlog					hlog	1.6.0			

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Table 7.10 – continued from previous page

CUDA	A	D	C	R	HIP	A	D	C	R
hlog10					hlog10	1.6.0			
hlog2					hlog2	1.6.0			
hrcp					hrcp	1.9.0			
hrint					hrint	1.6.0			
hrsqrt					hrsqrt	1.6.0			
hsin					hsin	1.6.0			
hsqrt					hsqrt	1.6.0			
htanh	12.8								
htanh_approx	12.8								
htrunc					htrunc	1.6.0			
hypot					hypot	1.6.0			
hypotf					hypotf	1.6.0			
ilogb					ilogb	1.6.0			
ilogbf					ilogbf	1.6.0			
int2float									
int_as_float									
isfinite					isfinite	1.6.0			
isinf					isinf	1.6.0			
isnan					isnan	1.6.0			
j0					j0	1.6.0			
j0f					j0f	1.6.0			
j1					j1	1.6.0			
j1f					j1f	1.6.0			
jn					jn	1.6.0			
jnf					jnf	1.6.0			
labs					labs	1.9.0			
ldexp					ldexp	1.6.0			
ldexpf					ldexpf	1.6.0			
lgamma					lgamma	1.6.0			
lgammaf					lgammaf	1.6.0			
llabs					llabs	1.9.0			
llmax									
llmin									
llrint					llrint	1.6.0			
llrintf					llrintf	1.6.0			
llround					llround	1.6.0			
llroundf					llroundf	1.6.0			
log					log	1.6.0			
log10					log10	1.6.0			
log10f					log10f	1.6.0			
log1p					log1p	1.6.0			
log1pf					log1pf	1.6.0			
log2					log2	1.6.0			
log2f					log2f	1.6.0			
logb					logb	1.6.0			
logbf					logbf	1.6.0			
logf					logf	1.6.0			
lrint					lrint	1.6.0			
lrintf					lrintf	1.6.0			
lround					lround	1.6.0			

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Table 7.10 – continued from previous page

CUDA	A	D	C	R	HIP	A	D	C	R
lroundf					lroundf	1.6.0			
make_bfloat162	12.2								
make_half2	12.2				make_half2	4.5.0			
max					max	1.6.0			
min					min	1.6.0			
modf					modf	1.9.0			
modff					modff	1.9.0			
mul24									
mul64hi									
mulhi									
nan					nan	1.6.0			
nanf					nanf	1.6.0			
nearbyint					nearbyint	1.6.0			
nearbyintf					nearbyintf	1.6.0			
nextafter					nextafter	1.6.0			
nextafterf					nextafterf	1.9.0			
norm					norm	1.6.0			
norm3d					norm3d	1.6.0			
norm3df					norm3df	1.6.0			
norm4d					norm4d	1.6.0			
norm4df					norm4df	1.6.0			
normcdf					normcdf	1.6.0			
normcdff					normcdff	1.6.0			
normcdfinv					normcdfinv	1.6.0			
normcdfinvf					normcdfinvf	1.6.0			
normf					normf	1.6.0			
pow					pow	1.6.0			
powf					powf	1.6.0			
rcbrt					rcbrt	1.6.0			
rcbrtf					rcbrtf	1.6.0			
remainder					remainder	1.6.0			
remainderf					remainderf	1.6.0			
remquo					remquo	1.9.0			
remquof					remquof	1.6.0			
rhypot					rhypot	1.6.0			
rhypotf					rhypotf	1.6.0			
rint					rint	1.6.0			
rintf					rintf	1.6.0			
rnorm					rnorm	1.6.0			
rnorm3d					rnorm3d	1.6.0			
rnorm3df					rnorm3df	1.6.0			
rnorm4d					rnorm4d	1.6.0			
rnorm4df					rnorm4df	1.6.0			
rnormf					rnormf	1.6.0			
round					round	1.6.0			
roundf					roundf	1.6.0			
rsqrt					rsqrt	1.6.0			
rsqrtf					rsqrtf	1.6.0			
saturate									
scalbln					scalbln	1.6.0			

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Table 7.10 – continued from previous page

CUDA	A	D	C	R	HIP	A	D	C	R
scalblnf					scalblnf	1.6.0			
scalbn					scalbn	1.6.0			
scalbnf					scalbnf	1.6.0			
signbit					signbit	1.6.0			
sin					sin	1.6.0			
sincos					sincos	1.6.0			
sincosf					sincosf	1.6.0			
sincospi					sincospi	1.6.0			
sincospif					sincospif	1.6.0			
sinf					sinf	1.6.0			
sinh					sinh	1.6.0			
sinhf					sinhf	1.6.0			
sinpi					sinpi	1.6.0			
sinpif					sinpif	1.6.0			
sqrt					sqrt	1.6.0			
sqrtf					sqrtf	1.6.0			
tan					tan	1.6.0			
tanf					tanf	1.6.0			
tanh					tanh	1.6.0			
tanhf					tanhf	1.6.0			
tgamma					tgamma	1.6.0			
tgammaf					tgammaf	1.6.0			
trunc					trunc	1.6.0			
truncf					truncf	1.6.0			
uint2float									
uint_as_float									
ullmax									
ullmin									
umax									
umin									
umul24									
y0					y0	1.6.0			
y0f					y0f	1.6.0			
y1					y1	1.6.0			
y1f					y1f	1.6.0			
yn					yn	1.6.0			
ynf					ynf	1.6.0			

7.4.2 2. Device Types

CUDA	A	D	C	R	HIP	A	D	C	R	E
CUDART_INF_FP16	12.2				HIPRT_INF_FP16	7.0.0				7.0.0
CUDART_MAX_NORMAL_FP16	12.2				HIPRT_MAX_NORMAL_FP16	7.0.0				7.0.0
CUDART_MIN_DENORM_FP16	12.2				HIPRT_MIN_DENORM_FP16	7.0.0				7.0.0
CUDART_NAN_FP16	12.2				HIPRT_NAN_FP16	7.0.0				7.0.0
CUDART_NEG_ZERO_FP16	12.2				HIPRT_NEG_ZERO_FP16	7.0.0				7.0.0
CUDART_ONE_FP16	12.2				HIPRT_ONE_FP16	7.0.0				7.0.0
CUDART_ZERO_FP16	12.2				HIPRT_ZERO_FP16	7.0.0				7.0.0
__NV_E2M1	12.8				__HIP_E2M1	7.0.0				7.0.0

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Table 7.11 – continued from previous page

CUDA	A	D	C	R	HIP	A	D	C	R	E
__NV_E2M3	12.8									
__NV_E3M2	12.8									
__NV_E4M3	11.8				__HIP_E4M3_FNUZ	6.2.0				
__NV_E5M2	11.8				__HIP_E5M2_FNUZ	6.2.0				
__NV_NOSAT	11.8				__HIP_NOSAT	6.2.0				
__NV_SATFINITE	11.8				__HIP_SATFINITE	6.2.0				
__half					__half	1.6.0				
__half2					__half2	1.6.0				
__half2_raw					__half2_raw	1.9.0				
__half_raw					__half_raw	1.9.0				
__nv_bfloat16	11.0				__hip_bfloat16	5.7.0				
__nv_bfloat162	11.0				__hip_bfloat162	5.7.0				
__nv_bfloat162_raw	11.0				__hip_bfloat162_raw	6.2.0				
__nv_bfloat16_raw	11.0				__hip_bfloat16_raw	6.2.0				
__nv_fp4_e2m1	12.8				__hip_fp4_e2m1	7.0.0				7.0.0
__nv_fp4_interpretation_t	12.8				__hip_fp4_interpretation_t	7.0.0				7.0.0
__nv_fp4_storage_t	12.8				__hip_fp4_storage_t	7.0.0				7.0.0
__nv_fp4x2_e2m1	12.8				__hip_fp4x2_e2m1	7.0.0				7.0.0
__nv_fp4x2_storage_t	12.8				__hip_fp4x2_storage_t	7.0.0				7.0.0
__nv_fp4x4_e2m1	12.8				__hip_fp4x4_e2m1	7.0.0				7.0.0
__nv_fp4x4_storage_t	12.8				__hip_fp4x4_storage_t	7.0.0				7.0.0
__nv_fp6_e2m3	12.8									
__nv_fp6_e3m2	12.8									
__nv_fp6_interpretation_t	12.8									
__nv_fp6_storage_t	12.8									
__nv_fp6x2_e2m3	12.8									
__nv_fp6x2_e3m2	12.8									
__nv_fp6x2_storage_t	12.8									
__nv_fp6x4_e2m3	12.8									
__nv_fp6x4_e3m2	12.8									
__nv_fp6x4_storage_t	12.8									
__nv_fp8_e4m3	11.8				__hip_fp8_e4m3_fnuz	6.2.0				
__nv_fp8_e5m2	11.8				__hip_fp8_e5m2_fnuz	6.2.0				
__nv_fp8_e8m0	12.8									
__nv_fp8_interpretation_t	11.8				__hip_fp8_interpretation_t	6.2.0				
__nv_fp8_storage_t	11.8				__hip_fp8_storage_t	6.2.0				
__nv_fp8x2_e4m3	11.8				__hip_fp8x2_e4m3_fnuz	6.2.0				
__nv_fp8x2_e5m2	11.8				__hip_fp8x2_e5m2_fnuz	6.2.0				
__nv_fp8x2_e8m0	12.8									
__nv_fp8x2_storage_t	11.8				__hip_fp8x2_storage_t	6.2.0				
__nv_fp8x4_e4m3	11.8				__hip_fp8x4_e4m3_fnuz	6.2.0				
__nv_fp8x4_e5m2	11.8				__hip_fp8x4_e5m2_fnuz	6.2.0				
__nv_fp8x4_e8m0	12.8									
__nv_fp8x4_storage_t	11.8				__hip_fp8x4_storage_t	6.2.0				
__nv_saturation_t	11.8				__hip_saturation_t	6.2.0				
cudaRoundMinInf					hipRoundMinInf	7.0.0				7.0.0
cudaRoundMode					hipRoundMode	7.0.0				7.0.0
cudaRoundNearest					hipRoundNearest	7.0.0				7.0.0
cudaRoundPosInf					hipRoundPosInf	7.0.0				7.0.0
cudaRoundZero					hipRoundZero	7.0.0				7.0.0

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Table 7.11 – continued from previous page

CUDA	A	D	C	R	HIP	A	D	C	R	E
nv_bfloat16	11.0				hip_bfloat16	3.5.0				
nv_bfloat162	11.0									

7.5 CUDA RTC API supported by HIP

Note: In the tables that follow the columns marked A, D, C, R, and E mean the following: **A** - Added; **D** - Deprecated; **C** - Changed; **R** - Removed; **E** - Experimental

7.5.1 1. RTC Data types

CUDA	A	D	C	R	HIP	A	D	C	R	E
NVRTC_ERROR_BUILTIN_OPERAT					HIPRTC_ERROR_BUILTIN_OPERA	2.6.0				
NVRTC_ERROR_CANCELLED	12.8									
NVRTC_ERROR_COMPILATION					HIPRTC_ERROR_COMPILATION	2.6.0				
NVRTC_ERROR_INTERNAL_ERROI	8.0				HIPRTC_ERROR_INTERNAL_ERRO	2.6.0				
NVRTC_ERROR_INVALID_INPUT					HIPRTC_ERROR_INVALID_INPUT	2.6.0				
NVRTC_ERROR_INVALID_OPTIOI					HIPRTC_ERROR_INVALID_OPTIO	2.6.0				
NVRTC_ERROR_INVALID_PROGRA					HIPRTC_ERROR_INVALID_PROGR	2.6.0				
NVRTC_ERROR_NAME_EXPRESSI(	8.0				HIPRTC_ERROR_NAME_EXPRESSI	2.6.0				
NVRTC_ERROR_NO_LOWERED_NAI	8.0				HIPRTC_ERROR_NO_LOWERED_NA	2.6.0				ION
NVRTC_ERROR_NO_NAME_EXPRES	8.0				HIPRTC_ERROR_NO_NAME_EXPRE	2.6.0				ATION
NVRTC_ERROR_NO_PCH_CREATE_	12.8									
NVRTC_ERROR_OUT_OF_MEMORY					HIPRTC_ERROR_OUT_OF_MEMORY	2.6.0				
NVRTC_ERROR_PCH_CREATE	12.8									
NVRTC_ERROR_PCH_CREATE_HEA	12.8									
NVRTC_ERROR_PROGRAM_CREATI					HIPRTC_ERROR_PROGRAM_CREAT	2.6.0				
NVRTC_ERROR_TIME_FILE_WRIT	12.1									
NVRTC_SUCCESS					HIPRTC_SUCCESS	2.6.0				
_nvrtcProgram					_hiprtcProgram	2.6.0				
nvrtcProgram					hiprtcProgram	2.6.0				
nvrtcResult					hiprtcResult	2.6.0				

7.5.2 2. RTC API functions

CUDA	A	D	C	R	HIP	A	D	C	R	E
nvrtcAddNameExpression	8.0				hiprtcAddNameExpressi	2.6.0				
nvrtcCompileProgram			8.0		hiprtcCompileProgram	2.6.0		7.0.0		
nvrtcCreateProgram			8.0		hiprtcCreateProgram	2.6.0		7.0.0		
nvrtcDestroyProgram					hiprtcDestroyProgram	2.6.0				
nvrtcGetCUBIN	11.1				hiprtcGetBitcode	5.3.0				
nvrtcGetCUBINSize	11.1				hiprtcGetBitcodeSize	5.3.0				
nvrtcGetErrorString					hiprtcGetErrorString	2.6.0				
nvrtcGetLTOIR	12.0									
nvrtcGetLTOIRSize	12.0									
nvrtcGetLoweredName	8.0				hiprtcGetLoweredName	2.6.0				
nvrtcGetNVVM	11.4	12.0								
nvrtcGetNVVMSize	11.4	12.0								
nvrtcGetNumSupportedArchs	11.2									
nvrtcGetOptiXIR	12.0									
nvrtcGetOptiXIRSize	12.0									
nvrtcGetPCHCreateStatus	12.8									
nvrtcGetPCHHeapSize	12.8									
nvrtcGetPCHHeapSizeRequir	12.8									
nvrtcGetPTX					hiprtcGetCode	2.6.0				
nvrtcGetPTXSize					hiprtcGetCodeSize	2.6.0				
nvrtcGetProgramLog					hiprtcGetProgramLog	2.6.0				
nvrtcGetProgramLogSize					hiprtcGetProgramLogSi	2.6.0				
nvrtcGetSupportedArchs	11.2									
nvrtcSetFlowCallback	12.8									
nvrtcSetPCHHeapSize	12.8									
nvrtcVersion					hiprtcVersion	2.6.0				

7.6 CUBLAS API supported by HIP

Note: In the tables that follow the columns marked A, D, C, R, and E mean the following: **A** - Added; **D** - Deprecated; **C** - Changed; **R** - Removed; **E** - Experimental

7.6.1 1. CUBLAS Data types

CUDA	A	D	C	R	HIP
CUBLAS_ATOMICS_ALLOWED					HIPBLAS_ATOMICS_ALLOWED
CUBLAS_ATOMICS_NOT_ALLOWED					HIPBLAS_ATOMICS_NOT_ALLOWED
CUBLAS_COMPUTE_16F	11.0				HIPBLAS_COMPUTE_16F
CUBLAS_COMPUTE_16F_PEDANTIC	11.0				HIPBLAS_COMPUTE_16F_PEDANTIC
CUBLAS_COMPUTE_32F	11.0				HIPBLAS_COMPUTE_32F
CUBLAS_COMPUTE_32F_EMULATED_16BFX9	12.9				
CUBLAS_COMPUTE_32F_FAST_16BF	11.0				HIPBLAS_COMPUTE_32F_FAST_16BF
CUBLAS_COMPUTE_32F_FAST_16F	11.0				HIPBLAS_COMPUTE_32F_FAST_16F
CUBLAS_COMPUTE_32F_FAST_TF32	11.0				HIPBLAS_COMPUTE_32F_FAST_TF32
CUBLAS_COMPUTE_32F_PEDANTIC	11.0				HIPBLAS_COMPUTE_32F_PEDANTIC
CUBLAS_COMPUTE_32I	11.0				HIPBLAS_COMPUTE_32I
CUBLAS_COMPUTE_32I_PEDANTIC	11.0				HIPBLAS_COMPUTE_32I_PEDANTIC
CUBLAS_COMPUTE_64F	11.0				HIPBLAS_COMPUTE_64F
CUBLAS_COMPUTE_64F_PEDANTIC	11.0				HIPBLAS_COMPUTE_64F_PEDANTIC
CUBLAS_DEFAULT_MATH	9.0				HIPBLAS_DEFAULT_MATH
CUBLAS_DIAG_NON_UNIT					HIPBLAS_DIAG_NON_UNIT
CUBLAS_DIAG_UNIT					HIPBLAS_DIAG_UNIT
CUBLAS_EMULATION_STRATEGY_DEFAULT	12.9				
CUBLAS_EMULATION_STRATEGY_EAGER	12.9				
CUBLAS_EMULATION_STRATEGY_PERFORMANT	12.9				
CUBLAS_FILL_MODE_FULL	10.1				HIPBLAS_FILL_MODE_FULL
CUBLAS_FILL_MODE_LOWER					HIPBLAS_FILL_MODE_LOWER
CUBLAS_FILL_MODE_UPPER					HIPBLAS_FILL_MODE_UPPER
CUBLAS_FP32_EMULATED_BF16X9_MATH	12.9				HIPBLAS_FP32_EMULATED_BF16X9_MATH
CUBLAS_GEMM_ALGO0	8.0				
CUBLAS_GEMM_ALGO0_TENSOR_OP	9.0				
CUBLAS_GEMM_ALGO1	8.0				
CUBLAS_GEMM_ALGO10	9.0				
CUBLAS_GEMM_ALGO10_TENSOR_OP	9.2				
CUBLAS_GEMM_ALGO11	9.0				
CUBLAS_GEMM_ALGO11_TENSOR_OP	9.2				
CUBLAS_GEMM_ALGO12	9.0				
CUBLAS_GEMM_ALGO12_TENSOR_OP	9.2				
CUBLAS_GEMM_ALGO13	9.0				
CUBLAS_GEMM_ALGO13_TENSOR_OP	9.2				
CUBLAS_GEMM_ALGO14	9.0				
CUBLAS_GEMM_ALGO14_TENSOR_OP	9.2				
CUBLAS_GEMM_ALGO15	9.0				
CUBLAS_GEMM_ALGO15_TENSOR_OP	9.2				
CUBLAS_GEMM_ALGO16	9.0				
CUBLAS_GEMM_ALGO17	9.0				
CUBLAS_GEMM_ALGO18	9.2				
CUBLAS_GEMM_ALGO19	9.2				
CUBLAS_GEMM_ALGO1_TENSOR_OP	9.0				

Table 7.12 – continued from previous page

CUDA	A	D	C	R	HIP
CUBLAS_GEMM_ALGO2	8.0				
CUBLAS_GEMM_ALGO20	9.2				
CUBLAS_GEMM_ALGO21	9.2				
CUBLAS_GEMM_ALGO22	9.2				
CUBLAS_GEMM_ALGO23	9.2				
CUBLAS_GEMM_ALGO2_TENSOR_OP	9.0				
CUBLAS_GEMM_ALGO3	8.0				
CUBLAS_GEMM_ALGO3_TENSOR_OP	9.0				
CUBLAS_GEMM_ALGO4	8.0				
CUBLAS_GEMM_ALGO4_TENSOR_OP	9.0				
CUBLAS_GEMM_ALGO5	8.0				
CUBLAS_GEMM_ALGO5_TENSOR_OP	9.2				
CUBLAS_GEMM_ALGO6	8.0				
CUBLAS_GEMM_ALGO6_TENSOR_OP	9.2				
CUBLAS_GEMM_ALGO7	8.0				
CUBLAS_GEMM_ALGO7_TENSOR_OP	9.2				
CUBLAS_GEMM_ALGO8	9.0				
CUBLAS_GEMM_ALGO8_TENSOR_OP	9.2				
CUBLAS_GEMM_ALGO9	9.0				
CUBLAS_GEMM_ALGO9_TENSOR_OP	9.2				
CUBLAS_GEMM_DEFAULT	9.0				HIPBLAS_GEMM_DEFAULT
CUBLAS_GEMM_DEFAULT_TENSOR_OP	9.0				
CUBLAS_GEMM_DFALT	8.0				HIPBLAS_GEMM_DEFAULT
CUBLAS_GEMM_DFALT_TENSOR_OP	9.0				
CUBLAS_MATH_DISALLOW_REDUCED_PRECISION_REDUCTION	11.0				HIPBLAS_MATH_DISALLOW_REDUCED_PRE
CUBLAS_OP_C					HIPBLAS_OP_C
CUBLAS_OP_CONJG	10.1				
CUBLAS_OP_HERMITAN	10.1				HIPBLAS_OP_C
CUBLAS_OP_N					HIPBLAS_OP_N
CUBLAS_OP_T					HIPBLAS_OP_T
CUBLAS_PEDANTIC_MATH	11.0				HIPBLAS_PEDANTIC_MATH
CUBLAS_POINTER_MODE_DEVICE					HIPBLAS_POINTER_MODE_DEVICE
CUBLAS_POINTER_MODE_HOST					HIPBLAS_POINTER_MODE_HOST
CUBLAS_SIDE_LEFT					HIPBLAS_SIDE_LEFT
CUBLAS_SIDE_RIGHT					HIPBLAS_SIDE_RIGHT
CUBLAS_STATUS_ALLOC_FAILED					HIPBLAS_STATUS_ALLOC_FAILED
CUBLAS_STATUS_ARCH_MISMATCH					HIPBLAS_STATUS_ARCH_MISMATCH
CUBLAS_STATUS_EXECUTION_FAILED					HIPBLAS_STATUS_EXECUTION_FAILED
CUBLAS_STATUS_INTERNAL_ERROR					HIPBLAS_STATUS_INTERNAL_ERROR
CUBLAS_STATUS_INVALID_VALUE					HIPBLAS_STATUS_INVALID_VALUE
CUBLAS_STATUS_LICENSE_ERROR					HIPBLAS_STATUS_UNKNOWN
CUBLAS_STATUS_MAPPING_ERROR					HIPBLAS_STATUS_MAPPING_ERROR
CUBLAS_STATUS_NOT_INITIALIZED					HIPBLAS_STATUS_NOT_INITIALIZED
CUBLAS_STATUS_NOT_SUPPORTED					HIPBLAS_STATUS_NOT_SUPPORTED
CUBLAS_STATUS_SUCCESS					HIPBLAS_STATUS_SUCCESS
CUBLAS_TENSOR_OP_MATH	9.0	11.0			HIPBLAS_TENSOR_OP_MATH
CUBLAS_TF32_TENSOR_OP_MATH	11.0				HIPBLAS_TF32_TENSOR_OP_MATH
cublasAtomicsMode_t					hipblasAtomicsMode_t
cublasComputeType_t	11.0				hipblasComputeType_t
cublasContext					

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CUDA	A	D	C	R	HIP
cublasDiagType_t					hipblasDiagType_t
cublasEmulationStrategy_t	12.9				hipblasEmulationStrategy_t
cublasFillMode_t					hipblasFillMode_t
cublasGemmAlgo_t	8.0				hipblasGemmAlgo_t
cublasHandle_t					hipblasHandle_t
cublasMath_t	9.0				hipblasMath_t
cublasOperation_t					hipblasOperation_t
cublasPointerMode_t					hipblasPointerMode_t
cublasSideMode_t					hipblasSideMode_t
cublasStatus					hipblasStatus_t
cublasStatus_t					hipblasStatus_t

7.6.2 2. CUDA Library Data types

CUDA	A	D	C	R	HIP	A	D	C	R	E
CUDA_C_16BF					HIP_C_16BF	5.5.0				
CUDA_C_16F	8.0				HIP_C_16F	3.0.0				
CUDA_C_16I	11.0				HIP_C_16I	5.5.0				
CUDA_C_16U	11.0				HIP_C_16U	5.5.0				
CUDA_C_32F	8.0				HIP_C_32F	3.0.0				
CUDA_C_32I	8.0				HIP_C_32I	5.5.0				
CUDA_C_32U	8.0				HIP_C_32U	5.5.0				
CUDA_C_4I	11.0				HIP_C_4I	5.5.0				
CUDA_C_4U	11.0				HIP_C_4U	5.5.0				
CUDA_C_64F	8.0				HIP_C_64F	3.0.0				
CUDA_C_64I	11.0				HIP_C_64I	5.5.0				
CUDA_C_64U	11.0				HIP_C_64U	5.5.0				
CUDA_C_8I	8.0				HIP_C_8I	5.5.0				
CUDA_C_8U	8.0				HIP_C_8U	5.5.0				
CUDA_R_16BF					HIP_R_16BF	5.5.0				
CUDA_R_16F	8.0				HIP_R_16F	3.0.0				
CUDA_R_16I	11.0				HIP_R_16I	5.5.0				
CUDA_R_16U	11.0				HIP_R_16U	5.5.0				
CUDA_R_32F	8.0				HIP_R_32F	3.0.0				
CUDA_R_32I	8.0				HIP_R_32I	5.5.0				
CUDA_R_32U	8.0				HIP_R_32U	5.5.0				
CUDA_R_4F_E2M1	12.8				HIP_R_4F_E2M1	7.0.0				7.0.0
CUDA_R_4I	11.0				HIP_R_4I	5.5.0				
CUDA_R_4U	11.0				HIP_R_4U	5.5.0				
CUDA_R_64F	8.0				HIP_R_64F	3.0.0				
CUDA_R_64I	11.0				HIP_R_64I	5.5.0				
CUDA_R_64U	11.0				HIP_R_64U	5.5.0				
CUDA_R_6F_E2M3	12.8				HIP_R_6F_E2M3	7.0.0				7.0.0
CUDA_R_6F_E3M2	12.8				HIP_R_6F_E3M2	7.0.0				7.0.0
CUDA_R_8F_E4M3	11.8				HIP_R_8F_E4M3	6.3.0				
CUDA_R_8F_E5M2	11.8				HIP_R_8F_E5M2	6.3.0				
CUDA_R_8F_UE4M3	12.8				HIP_R_8F_E4M3	6.3.0				
CUDA_R_8F_UE8M0	12.8				HIP_R_8F_UE8M0	7.0.0				7.0.0
CUDA_R_8I	8.0				HIP_R_8I	5.5.0				

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CUDA	A	D	C	R	HIP	A	D	C	R	E
CUDA_R_8U	8.0				HIP_R_8U	5.5.0				
cublasDataType_t	7.5				hipDataType	3.0.0				
cudaDataType	8.0				hipDataType	3.0.0				
cudaDataType_t	8.0				hipDataType	3.0.0				

7.6.3 3. CUBLASLt Data types

CUDA	A	D	C	R	HIP
CUBLASLT_ALGO_CAP_ATOMIC_SYNC	12.2				
CUBLASLT_ALGO_CAP_CTA_SWIZZLING_SUPPORT	10.1				
CUBLASLT_ALGO_CAP_CUSTOM_MEMORY_ORDER	10.1				
CUBLASLT_ALGO_CAP_CUSTOM_OPTION_MAX	10.1				
CUBLASLT_ALGO_CAP_EPILOGUE_MASK	10.1				
CUBLASLT_ALGO_CAP_FLOATING_POINT_EMULATION_SUPPORT	12.9				
CUBLASLT_ALGO_CAP_LD_NEGATIVE	11.0				
CUBLASLT_ALGO_CAP_MIN_ALIGNMENT_A_BYTES	11.0				
CUBLASLT_ALGO_CAP_MIN_ALIGNMENT_B_BYTES	11.0				
CUBLASLT_ALGO_CAP_MIN_ALIGNMENT_C_BYTES	11.0				
CUBLASLT_ALGO_CAP_MIN_ALIGNMENT_D_BYTES	11.0				
CUBLASLT_ALGO_CAP_NUMERICAL_IMPL_FLAGS	11.0				
CUBLASLT_ALGO_CAP_OUT_OF_PLACE_RESULT_SUPPORT	10.1				
CUBLASLT_ALGO_CAP_POINTER_ARRAY_BATCH_SUPPORT	12.9				
CUBLASLT_ALGO_CAP_POINTER_MODE_MASK	10.1				
CUBLASLT_ALGO_CAP_REDUCTION_SCHEME_MASK	10.1				
CUBLASLT_ALGO_CAP_SPLITK_SUPPORT	10.1				
CUBLASLT_ALGO_CAP_STAGES_IDS	11.0				
CUBLASLT_ALGO_CAP_STRIDED_BATCH_SUPPORT	10.1				
CUBLASLT_ALGO_CAP_TILE_IDS	10.1				
CUBLASLT_ALGO_CAP_UPLO_SUPPORT	10.1				
CUBLASLT_ALGO_CONFIG_CLUSTER_SHAPE_ID	11.8				
CUBLASLT_ALGO_CONFIG_CTA_SWIZZLING	10.1				
CUBLASLT_ALGO_CONFIG_CUSTOM_OPTION	10.1				
CUBLASLT_ALGO_CONFIG_ID	10.1				
CUBLASLT_ALGO_CONFIG_INNER_SHAPE_ID	11.8				
CUBLASLT_ALGO_CONFIG_REDUCTION_SCHEME	10.1				
CUBLASLT_ALGO_CONFIG_SPLITK_NUM	10.1				
CUBLASLT_ALGO_CONFIG_STAGES_ID	11.0				
CUBLASLT_ALGO_CONFIG_TILE_ID	10.1				
CUBLASLT_BATCH_MODE_POINTER_ARRAY	12.9				
CUBLASLT_BATCH_MODE_STRIDED	12.9				
CUBLASLT_CLUSTER_SHAPE_10x1x1	11.8				
CUBLASLT_CLUSTER_SHAPE_11x1x1	11.8				
CUBLASLT_CLUSTER_SHAPE_12x1x1	11.8				
CUBLASLT_CLUSTER_SHAPE_13x1x1	11.8				
CUBLASLT_CLUSTER_SHAPE_14x1x1	11.8				
CUBLASLT_CLUSTER_SHAPE_15x1x1	11.8				
CUBLASLT_CLUSTER_SHAPE_16x1x1	11.8				
CUBLASLT_CLUSTER_SHAPE_1x10x1	11.8				
CUBLASLT_CLUSTER_SHAPE_1x11x1	11.8				

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CUDA	A	D	C	R	HIP
CUBLASLT_CLUSTER_SHAPE_1x12x1	11.8				
CUBLASLT_CLUSTER_SHAPE_1x13x1	11.8				
CUBLASLT_CLUSTER_SHAPE_1x14x1	11.8				
CUBLASLT_CLUSTER_SHAPE_1x15x1	11.8				
CUBLASLT_CLUSTER_SHAPE_1x16x1	11.8				
CUBLASLT_CLUSTER_SHAPE_1x1x1	11.8				
CUBLASLT_CLUSTER_SHAPE_1x2x1	11.8				
CUBLASLT_CLUSTER_SHAPE_1x3x1	11.8				
CUBLASLT_CLUSTER_SHAPE_1x4x1	11.8				
CUBLASLT_CLUSTER_SHAPE_1x5x1	11.8				
CUBLASLT_CLUSTER_SHAPE_1x6x1	11.8				
CUBLASLT_CLUSTER_SHAPE_1x7x1	11.8				
CUBLASLT_CLUSTER_SHAPE_1x8x1	11.8				
CUBLASLT_CLUSTER_SHAPE_1x9x1	11.8				
CUBLASLT_CLUSTER_SHAPE_2x1x1	11.8				
CUBLASLT_CLUSTER_SHAPE_2x2x1	11.8				
CUBLASLT_CLUSTER_SHAPE_2x3x1	11.8				
CUBLASLT_CLUSTER_SHAPE_2x4x1	11.8				
CUBLASLT_CLUSTER_SHAPE_2x5x1	11.8				
CUBLASLT_CLUSTER_SHAPE_2x6x1	11.8				
CUBLASLT_CLUSTER_SHAPE_2x7x1	11.8				
CUBLASLT_CLUSTER_SHAPE_2x8x1	11.8				
CUBLASLT_CLUSTER_SHAPE_3x1x1	11.8				
CUBLASLT_CLUSTER_SHAPE_3x2x1	11.8				
CUBLASLT_CLUSTER_SHAPE_3x3x1	11.8				
CUBLASLT_CLUSTER_SHAPE_3x4x1	11.8				
CUBLASLT_CLUSTER_SHAPE_3x5x1	11.8				
CUBLASLT_CLUSTER_SHAPE_4x1x1	11.8				
CUBLASLT_CLUSTER_SHAPE_4x2x1	11.8				
CUBLASLT_CLUSTER_SHAPE_4x3x1	11.8				
CUBLASLT_CLUSTER_SHAPE_4x4x1	11.8				
CUBLASLT_CLUSTER_SHAPE_5x1x1	11.8				
CUBLASLT_CLUSTER_SHAPE_5x2x1	11.8				
CUBLASLT_CLUSTER_SHAPE_5x3x1	11.8				
CUBLASLT_CLUSTER_SHAPE_6x1x1	11.8				
CUBLASLT_CLUSTER_SHAPE_6x2x1	11.8				
CUBLASLT_CLUSTER_SHAPE_7x1x1	11.8				
CUBLASLT_CLUSTER_SHAPE_7x2x1	11.8				
CUBLASLT_CLUSTER_SHAPE_8x1x1	11.8				
CUBLASLT_CLUSTER_SHAPE_8x2x1	11.8				
CUBLASLT_CLUSTER_SHAPE_9x1x1	11.8				
CUBLASLT_CLUSTER_SHAPE_AUTO	11.8				
CUBLASLT_CLUSTER_SHAPE_END	11.8				
CUBLASLT_EPILOGUE_BGRADA	11.4				HIPBLASLT_EPILOGUE_BGRAD
CUBLASLT_EPILOGUE_BGRADB	11.4				HIPBLASLT_EPILOGUE_BGRAD
CUBLASLT_EPILOGUE_BIAS	10.1				HIPBLASLT_EPILOGUE_BIAS
CUBLASLT_EPILOGUE_DEFAULT	10.1				HIPBLASLT_EPILOGUE_DEFAU
CUBLASLT_EPILOGUE_DGELU	11.6				HIPBLASLT_EPILOGUE_DGELU
CUBLASLT_EPILOGUE_DGELU_BGRAD	11.3				HIPBLASLT_EPILOGUE_DGELU
CUBLASLT_EPILOGUE_DRELU	11.6				

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CUDA	A	D	C	R	HIP
CUBLASLT_EPILOGUE_DRELU_BGRAD	11.3				
CUBLASLT_EPILOGUE_GELU	11.3				HIPBLASLT_EPILOGUE_GELU
CUBLASLT_EPILOGUE_GELU_AUX	11.3				HIPBLASLT_EPILOGUE_GELU_
CUBLASLT_EPILOGUE_GELU_AUX_BIAS	11.3				HIPBLASLT_EPILOGUE_GELU_
CUBLASLT_EPILOGUE_GELU_BIAS	11.3				HIPBLASLT_EPILOGUE_GELU_
CUBLASLT_EPILOGUE_RELU	10.1				HIPBLASLT_EPILOGUE_RELU
CUBLASLT_EPILOGUE_RELU_AUX	11.3				
CUBLASLT_EPILOGUE_RELU_AUX_BIAS	11.3				
CUBLASLT_EPILOGUE_RELU_BIAS	10.1				HIPBLASLT_EPILOGUE_RELU_
CUBLASLT_MATMUL_DESC_ALPHA_VECTOR_BATCH_STRIDE	11.4				
CUBLASLT_MATMUL_DESC_AMAX_D_POINTER	11.8				HIPBLASLT_MATMUL_DESC_AM
CUBLASLT_MATMUL_DESC_ATOMIC_SYNC_IN_COUNTERS_POINTER	12.2				
CUBLASLT_MATMUL_DESC_ATOMIC_SYNC_NUM_CHUNKS_D_COLS	12.2	12.8			
CUBLASLT_MATMUL_DESC_ATOMIC_SYNC_NUM_CHUNKS_D_ROWS	12.2	12.8			
CUBLASLT_MATMUL_DESC_ATOMIC_SYNC_OUT_COUNTERS_POINTER	12.2				
CUBLASLT_MATMUL_DESC_A_SCALE_MODE	12.8				HIPBLASLT_MATMUL_DESC_A_
CUBLASLT_MATMUL_DESC_A_SCALE_POINTER	11.8				HIPBLASLT_MATMUL_DESC_A_
CUBLASLT_MATMUL_DESC_BIAS_BATCH_STRIDE	11.3				
CUBLASLT_MATMUL_DESC_BIAS_DATA_TYPE	11.8				HIPBLASLT_MATMUL_DESC_BI
CUBLASLT_MATMUL_DESC_BIAS_POINTER	10.1				HIPBLASLT_MATMUL_DESC_BI
CUBLASLT_MATMUL_DESC_B_SCALE_MODE	12.8				HIPBLASLT_MATMUL_DESC_B_
CUBLASLT_MATMUL_DESC_B_SCALE_POINTER	11.8				HIPBLASLT_MATMUL_DESC_B_
CUBLASLT_MATMUL_DESC_COMPUTE_TYPE	10.1				
CUBLASLT_MATMUL_DESC_C_SCALE_MODE	12.8				
CUBLASLT_MATMUL_DESC_C_SCALE_POINTER	11.8				HIPBLASLT_MATMUL_DESC_C_
CUBLASLT_MATMUL_DESC_D_OUT_SCALE_MODE	12.8				
CUBLASLT_MATMUL_DESC_D_OUT_SCALE_POINTER	12.8				
CUBLASLT_MATMUL_DESC_D_SCALE_MODE	12.8				
CUBLASLT_MATMUL_DESC_D_SCALE_POINTER	11.8				HIPBLASLT_MATMUL_DESC_D_
CUBLASLT_MATMUL_DESC_EPILOGUE	10.1				HIPBLASLT_MATMUL_DESC_EP
CUBLASLT_MATMUL_DESC_EPILOGUE_AUX_AMAX_POINTER	11.8				
CUBLASLT_MATMUL_DESC_EPILOGUE_AUX_BATCH_STRIDE	11.3				HIPBLASLT_MATMUL_DESC_EP
CUBLASLT_MATMUL_DESC_EPILOGUE_AUX_DATA_TYPE	11.8				HIPBLASLT_MATMUL_DESC_EP
CUBLASLT_MATMUL_DESC_EPILOGUE_AUX_LD	11.3				HIPBLASLT_MATMUL_DESC_EP
CUBLASLT_MATMUL_DESC_EPILOGUE_AUX_POINTER	11.3				HIPBLASLT_MATMUL_DESC_EP
CUBLASLT_MATMUL_DESC_EPILOGUE_AUX_SCALE_MODE	12.8				
CUBLASLT_MATMUL_DESC_EPILOGUE_AUX_SCALE_POINTER	11.8				HIPBLASLT_MATMUL_DESC_EP
CUBLASLT_MATMUL_DESC_FAST_ACCUM	11.8				
CUBLASLT_MATMUL_DESC_FILL_MODE	10.1				
CUBLASLT_MATMUL_DESC_POINTER_MODE	10.1				HIPBLASLT_MATMUL_DESC_PO
CUBLASLT_MATMUL_DESC_SCALE_TYPE	10.1				
CUBLASLT_MATMUL_DESC_SM_COUNT_TARGET	11.5				
CUBLASLT_MATMUL_DESC_TRANSA	10.1				HIPBLASLT_MATMUL_DESC_TR
CUBLASLT_MATMUL_DESC_TRANSB	10.1				HIPBLASLT_MATMUL_DESC_TR
CUBLASLT_MATMUL_DESC_TRANSC	10.1				
CUBLASLT_MATMUL_INNER_SHAPE_END	11.8				
CUBLASLT_MATMUL_INNER_SHAPE_MMA16816	11.8				
CUBLASLT_MATMUL_INNER_SHAPE_MMA1684	11.8				
CUBLASLT_MATMUL_INNER_SHAPE_MMA1688	11.8				
CUBLASLT_MATMUL_INNER_SHAPE_MMA884	11.8				

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CUDA	A	D	C	R	HIP
CUBLASLT_MATMUL_INNER_SHAPE_UNDEFINED	11.8				
CUBLASLT_MATMUL_MATRIX_SCALE_BLK128x128_32F	12.9				HIPBLASLT_MATMUL_MATRIX_
CUBLASLT_MATMUL_MATRIX_SCALE_END	12.8				HIPBLASLT_MATMUL_MATRIX_
CUBLASLT_MATMUL_MATRIX_SCALE_OUTER_VEC_32F	12.9				HIPBLASLT_MATMUL_MATRIX_
CUBLASLT_MATMUL_MATRIX_SCALE_SCALAR_32F	12.8				HIPBLASLT_MATMUL_MATRIX_
CUBLASLT_MATMUL_MATRIX_SCALE_VEC128_32F	12.9				HIPBLASLT_MATMUL_MATRIX_
CUBLASLT_MATMUL_MATRIX_SCALE_VEC16_UE4M3	12.8				HIPBLASLT_MATMUL_MATRIX_
CUBLASLT_MATMUL_MATRIX_SCALE_VEC32_UE8M0	12.8				HIPBLASLT_MATMUL_MATRIX_
CUBLASLT_MATMUL_PREF_IMPL_MASK	11.0				
CUBLASLT_MATMUL_PREF_MAX_WAVES_COUNT	10.1				
CUBLASLT_MATMUL_PREF_MAX_WORKSPACE_BYTES	10.1				HIPBLASLT_MATMUL_PREF_MA
CUBLASLT_MATMUL_PREF_MIN_ALIGNMENT_A_BYTES	10.1				
CUBLASLT_MATMUL_PREF_MIN_ALIGNMENT_B_BYTES	10.1				
CUBLASLT_MATMUL_PREF_MIN_ALIGNMENT_C_BYTES	10.1				
CUBLASLT_MATMUL_PREF_MIN_ALIGNMENT_D_BYTES	10.1				
CUBLASLT_MATMUL_PREF_REDUCTION_SCHEME_MASK	10.1				
CUBLASLT_MATMUL_PREF_SEARCH_MODE	10.1				HIPBLASLT_MATMUL_PREF_SE
CUBLASLT_MATMUL_STAGES_128x1	11.0				
CUBLASLT_MATMUL_STAGES_128x2	11.0				
CUBLASLT_MATMUL_STAGES_128x3	11.0				
CUBLASLT_MATMUL_STAGES_128x4	11.0				
CUBLASLT_MATMUL_STAGES_128x5	11.0				
CUBLASLT_MATMUL_STAGES_128x6	11.0				
CUBLASLT_MATMUL_STAGES_128xAUTO	11.8				
CUBLASLT_MATMUL_STAGES_16x1	11.0				
CUBLASLT_MATMUL_STAGES_16x10	11.0				
CUBLASLT_MATMUL_STAGES_16x2	11.0				
CUBLASLT_MATMUL_STAGES_16x3	11.0				
CUBLASLT_MATMUL_STAGES_16x4	11.0				
CUBLASLT_MATMUL_STAGES_16x5	11.0				
CUBLASLT_MATMUL_STAGES_16x6	11.0				
CUBLASLT_MATMUL_STAGES_16xAUTO	11.8				
CUBLASLT_MATMUL_STAGES_256xAUTO	12.8				
CUBLASLT_MATMUL_STAGES_32x1	11.0				
CUBLASLT_MATMUL_STAGES_32x10	11.0				
CUBLASLT_MATMUL_STAGES_32x2	11.0				
CUBLASLT_MATMUL_STAGES_32x3	11.0				
CUBLASLT_MATMUL_STAGES_32x4	11.0				
CUBLASLT_MATMUL_STAGES_32x5	11.0				
CUBLASLT_MATMUL_STAGES_32x6	11.0				
CUBLASLT_MATMUL_STAGES_32xAUTO	11.8				
CUBLASLT_MATMUL_STAGES_64x1	11.0				
CUBLASLT_MATMUL_STAGES_64x2	11.0				
CUBLASLT_MATMUL_STAGES_64x3	11.0				
CUBLASLT_MATMUL_STAGES_64x4	11.0				
CUBLASLT_MATMUL_STAGES_64x5	11.0				
CUBLASLT_MATMUL_STAGES_64x6	11.0				
CUBLASLT_MATMUL_STAGES_64xAUTO	11.8				
CUBLASLT_MATMUL_STAGES_8x3	11.8				
CUBLASLT_MATMUL_STAGES_8x4	11.0				

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CUDA	A	D	C	R	HIP
CUBLASLT_MATMUL_STAGES_8x5	11.2				
CUBLASLT_MATMUL_STAGES_8xAUTO	11.8				
CUBLASLT_MATMUL_STAGES_END	11.0				
CUBLASLT_MATMUL_STAGES_UNDEFINED	11.0				
CUBLASLT_MATMUL_TILE_104x128	12.6				
CUBLASLT_MATMUL_TILE_104x192	12.6				
CUBLASLT_MATMUL_TILE_104x256	12.6				
CUBLASLT_MATMUL_TILE_104x320	12.6				
CUBLASLT_MATMUL_TILE_104x384	12.6				
CUBLASLT_MATMUL_TILE_104x448	12.6				
CUBLASLT_MATMUL_TILE_104x64	12.6				
CUBLASLT_MATMUL_TILE_112x128	12.6				
CUBLASLT_MATMUL_TILE_112x192	12.6				
CUBLASLT_MATMUL_TILE_112x256	12.6				
CUBLASLT_MATMUL_TILE_112x320	12.6				
CUBLASLT_MATMUL_TILE_112x384	12.6				
CUBLASLT_MATMUL_TILE_112x64	12.6				
CUBLASLT_MATMUL_TILE_120x128	12.6				
CUBLASLT_MATMUL_TILE_120x192	12.6				
CUBLASLT_MATMUL_TILE_120x256	12.6				
CUBLASLT_MATMUL_TILE_120x320	12.6				
CUBLASLT_MATMUL_TILE_120x384	12.6				
CUBLASLT_MATMUL_TILE_120x64	12.6				
CUBLASLT_MATMUL_TILE_128x104	12.6				
CUBLASLT_MATMUL_TILE_128x112	12.6				
CUBLASLT_MATMUL_TILE_128x120	12.6				
CUBLASLT_MATMUL_TILE_128x128	10.1				
CUBLASLT_MATMUL_TILE_128x136	12.6				
CUBLASLT_MATMUL_TILE_128x144	12.6				
CUBLASLT_MATMUL_TILE_128x152	12.6				
CUBLASLT_MATMUL_TILE_128x16	12.6				
CUBLASLT_MATMUL_TILE_128x160	11.3				
CUBLASLT_MATMUL_TILE_128x168	12.6				
CUBLASLT_MATMUL_TILE_128x176	12.6				
CUBLASLT_MATMUL_TILE_128x184	12.6				
CUBLASLT_MATMUL_TILE_128x192	11.8				
CUBLASLT_MATMUL_TILE_128x200	12.6				
CUBLASLT_MATMUL_TILE_128x208	12.6				
CUBLASLT_MATMUL_TILE_128x216	12.6				
CUBLASLT_MATMUL_TILE_128x224	12.6				
CUBLASLT_MATMUL_TILE_128x232	12.6				
CUBLASLT_MATMUL_TILE_128x24	12.6				
CUBLASLT_MATMUL_TILE_128x240	12.6				
CUBLASLT_MATMUL_TILE_128x248	12.6				
CUBLASLT_MATMUL_TILE_128x256	10.1				
CUBLASLT_MATMUL_TILE_128x264	12.6				
CUBLASLT_MATMUL_TILE_128x272	12.6				
CUBLASLT_MATMUL_TILE_128x280	12.6				
CUBLASLT_MATMUL_TILE_128x288	12.6				
CUBLASLT_MATMUL_TILE_128x296	12.6				

Table 7.14 – continued from previous page

CUDA	A	D	C	R	HIP
CUBLASLT_MATMUL_TILE_128x304	12.6				
CUBLASLT_MATMUL_TILE_128x312	12.6				
CUBLASLT_MATMUL_TILE_128x32	10.1				
CUBLASLT_MATMUL_TILE_128x320	12.6				
CUBLASLT_MATMUL_TILE_128x328	12.6				
CUBLASLT_MATMUL_TILE_128x336	12.6				
CUBLASLT_MATMUL_TILE_128x344	12.6				
CUBLASLT_MATMUL_TILE_128x352	12.6				
CUBLASLT_MATMUL_TILE_128x360	12.6				
CUBLASLT_MATMUL_TILE_128x368	12.6				
CUBLASLT_MATMUL_TILE_128x376	12.6				
CUBLASLT_MATMUL_TILE_128x384	12.6				
CUBLASLT_MATMUL_TILE_128x392	12.6				
CUBLASLT_MATMUL_TILE_128x40	12.6				
CUBLASLT_MATMUL_TILE_128x400	12.6				
CUBLASLT_MATMUL_TILE_128x408	12.6				
CUBLASLT_MATMUL_TILE_128x416	12.6				
CUBLASLT_MATMUL_TILE_128x424	12.6				
CUBLASLT_MATMUL_TILE_128x432	12.6				
CUBLASLT_MATMUL_TILE_128x440	12.6				
CUBLASLT_MATMUL_TILE_128x448	12.6				
CUBLASLT_MATMUL_TILE_128x456	12.6				
CUBLASLT_MATMUL_TILE_128x464	12.6				
CUBLASLT_MATMUL_TILE_128x472	12.6				
CUBLASLT_MATMUL_TILE_128x48	12.6				
CUBLASLT_MATMUL_TILE_128x480	12.6				
CUBLASLT_MATMUL_TILE_128x488	12.6				
CUBLASLT_MATMUL_TILE_128x496	12.6				
CUBLASLT_MATMUL_TILE_128x504	12.6				
CUBLASLT_MATMUL_TILE_128x512	12.6				
CUBLASLT_MATMUL_TILE_128x56	12.6				
CUBLASLT_MATMUL_TILE_128x64	10.1				
CUBLASLT_MATMUL_TILE_128x72	12.6				
CUBLASLT_MATMUL_TILE_128x8	12.6				
CUBLASLT_MATMUL_TILE_128x80	12.6				
CUBLASLT_MATMUL_TILE_128x88	12.6				
CUBLASLT_MATMUL_TILE_128x96	11.8				
CUBLASLT_MATMUL_TILE_136x128	12.6				
CUBLASLT_MATMUL_TILE_136x192	12.6				
CUBLASLT_MATMUL_TILE_136x256	12.6				
CUBLASLT_MATMUL_TILE_136x320	12.6				
CUBLASLT_MATMUL_TILE_136x64	12.6				
CUBLASLT_MATMUL_TILE_144x128	12.6				
CUBLASLT_MATMUL_TILE_144x192	12.6				
CUBLASLT_MATMUL_TILE_144x256	12.6				
CUBLASLT_MATMUL_TILE_144x320	12.6				
CUBLASLT_MATMUL_TILE_144x64	12.6				
CUBLASLT_MATMUL_TILE_152x128	12.6				
CUBLASLT_MATMUL_TILE_152x192	12.6				
CUBLASLT_MATMUL_TILE_152x256	12.6				

Table 7.14 – continued from previous page

CUDA	A	D	C	R	HIP
CUBLASLT_MATMUL_TILE_152x320	12.6				
CUBLASLT_MATMUL_TILE_152x64	12.6				
CUBLASLT_MATMUL_TILE_160x128	11.3				
CUBLASLT_MATMUL_TILE_160x192	12.6				
CUBLASLT_MATMUL_TILE_160x256	12.6				
CUBLASLT_MATMUL_TILE_160x64	12.6				
CUBLASLT_MATMUL_TILE_168x128	12.6				
CUBLASLT_MATMUL_TILE_168x192	12.6				
CUBLASLT_MATMUL_TILE_168x256	12.6				
CUBLASLT_MATMUL_TILE_168x64	12.6				
CUBLASLT_MATMUL_TILE_16x128	12.6				
CUBLASLT_MATMUL_TILE_16x16	10.1				
CUBLASLT_MATMUL_TILE_16x192	12.6				
CUBLASLT_MATMUL_TILE_16x256	12.6				
CUBLASLT_MATMUL_TILE_16x32	10.1				
CUBLASLT_MATMUL_TILE_16x320	12.6				
CUBLASLT_MATMUL_TILE_16x384	12.6				
CUBLASLT_MATMUL_TILE_16x448	12.6				
CUBLASLT_MATMUL_TILE_16x512	12.6				
CUBLASLT_MATMUL_TILE_16x576	12.6				
CUBLASLT_MATMUL_TILE_16x64	12.6				
CUBLASLT_MATMUL_TILE_16x640	12.6				
CUBLASLT_MATMUL_TILE_16x704	12.6				
CUBLASLT_MATMUL_TILE_16x768	12.6				
CUBLASLT_MATMUL_TILE_16x8	10.1				
CUBLASLT_MATMUL_TILE_176x128	12.6				
CUBLASLT_MATMUL_TILE_176x192	12.6				
CUBLASLT_MATMUL_TILE_176x256	12.6				
CUBLASLT_MATMUL_TILE_176x64	12.6				
CUBLASLT_MATMUL_TILE_184x128	12.6				
CUBLASLT_MATMUL_TILE_184x192	12.6				
CUBLASLT_MATMUL_TILE_184x256	12.6				
CUBLASLT_MATMUL_TILE_184x64	12.6				
CUBLASLT_MATMUL_TILE_192x104	12.6				
CUBLASLT_MATMUL_TILE_192x112	12.6				
CUBLASLT_MATMUL_TILE_192x120	12.6				
CUBLASLT_MATMUL_TILE_192x128	11.3				
CUBLASLT_MATMUL_TILE_192x136	12.6				
CUBLASLT_MATMUL_TILE_192x144	12.6				
CUBLASLT_MATMUL_TILE_192x152	12.6				
CUBLASLT_MATMUL_TILE_192x16	12.6				
CUBLASLT_MATMUL_TILE_192x160	12.6				
CUBLASLT_MATMUL_TILE_192x168	12.6				
CUBLASLT_MATMUL_TILE_192x176	12.6				
CUBLASLT_MATMUL_TILE_192x184	12.6				
CUBLASLT_MATMUL_TILE_192x192	12.6				
CUBLASLT_MATMUL_TILE_192x200	12.6				
CUBLASLT_MATMUL_TILE_192x208	12.6				
CUBLASLT_MATMUL_TILE_192x216	12.6				
CUBLASLT_MATMUL_TILE_192x224	12.6				

Table 7.14 – continued from previous page

CUDA	A	D	C	R	HIP
CUBLASLT_MATMUL_TILE_192x232	12.6				
CUBLASLT_MATMUL_TILE_192x24	12.6				
CUBLASLT_MATMUL_TILE_192x240	12.6				
CUBLASLT_MATMUL_TILE_192x248	12.6				
CUBLASLT_MATMUL_TILE_192x256	12.6				
CUBLASLT_MATMUL_TILE_192x264	12.6				
CUBLASLT_MATMUL_TILE_192x272	12.6				
CUBLASLT_MATMUL_TILE_192x280	12.6				
CUBLASLT_MATMUL_TILE_192x288	12.6				
CUBLASLT_MATMUL_TILE_192x296	12.6				
CUBLASLT_MATMUL_TILE_192x304	12.6				
CUBLASLT_MATMUL_TILE_192x312	12.6				
CUBLASLT_MATMUL_TILE_192x32	12.6				
CUBLASLT_MATMUL_TILE_192x320	12.6				
CUBLASLT_MATMUL_TILE_192x328	12.6				
CUBLASLT_MATMUL_TILE_192x336	12.6				
CUBLASLT_MATMUL_TILE_192x40	12.6				
CUBLASLT_MATMUL_TILE_192x48	12.6				
CUBLASLT_MATMUL_TILE_192x56	12.6				
CUBLASLT_MATMUL_TILE_192x64	12.6				
CUBLASLT_MATMUL_TILE_192x72	12.6				
CUBLASLT_MATMUL_TILE_192x8	12.6				
CUBLASLT_MATMUL_TILE_192x80	12.6				
CUBLASLT_MATMUL_TILE_192x88	12.6				
CUBLASLT_MATMUL_TILE_192x96	12.6				
CUBLASLT_MATMUL_TILE_200x128	12.6				
CUBLASLT_MATMUL_TILE_200x192	12.6				
CUBLASLT_MATMUL_TILE_200x64	12.6				
CUBLASLT_MATMUL_TILE_208x128	12.6				
CUBLASLT_MATMUL_TILE_208x192	12.6				
CUBLASLT_MATMUL_TILE_208x64	12.6				
CUBLASLT_MATMUL_TILE_216x128	12.6				
CUBLASLT_MATMUL_TILE_216x192	12.6				
CUBLASLT_MATMUL_TILE_216x64	12.6				
CUBLASLT_MATMUL_TILE_224x128	12.6				
CUBLASLT_MATMUL_TILE_224x192	12.6				
CUBLASLT_MATMUL_TILE_224x64	12.6				
CUBLASLT_MATMUL_TILE_232x128	12.6				
CUBLASLT_MATMUL_TILE_232x192	12.6				
CUBLASLT_MATMUL_TILE_232x64	12.6				
CUBLASLT_MATMUL_TILE_240x128	12.6				
CUBLASLT_MATMUL_TILE_240x192	12.6				
CUBLASLT_MATMUL_TILE_240x64	12.6				
CUBLASLT_MATMUL_TILE_248x128	12.6				
CUBLASLT_MATMUL_TILE_248x192	12.6				
CUBLASLT_MATMUL_TILE_248x64	12.6				
CUBLASLT_MATMUL_TILE_24x128	12.6				
CUBLASLT_MATMUL_TILE_24x192	12.6				
CUBLASLT_MATMUL_TILE_24x256	12.6				
CUBLASLT_MATMUL_TILE_24x320	12.6				

Table 7.14 – continued from previous page

CUDA	A	D	C	R	HIP
CUBLASLT_MATMUL_TILE_24x384	12.6				
CUBLASLT_MATMUL_TILE_24x448	12.6				
CUBLASLT_MATMUL_TILE_24x512	12.6				
CUBLASLT_MATMUL_TILE_24x576	12.6				
CUBLASLT_MATMUL_TILE_24x64	12.6				
CUBLASLT_MATMUL_TILE_24x640	12.6				
CUBLASLT_MATMUL_TILE_24x704	12.6				
CUBLASLT_MATMUL_TILE_24x768	12.6				
CUBLASLT_MATMUL_TILE_256x1024	12.8				
CUBLASLT_MATMUL_TILE_256x104	12.6				
CUBLASLT_MATMUL_TILE_256x112	12.6				
CUBLASLT_MATMUL_TILE_256x120	12.6				
CUBLASLT_MATMUL_TILE_256x128	10.1				
CUBLASLT_MATMUL_TILE_256x136	12.6				
CUBLASLT_MATMUL_TILE_256x144	12.6				
CUBLASLT_MATMUL_TILE_256x152	12.6				
CUBLASLT_MATMUL_TILE_256x16	12.6				
CUBLASLT_MATMUL_TILE_256x160	12.6				
CUBLASLT_MATMUL_TILE_256x168	12.6				
CUBLASLT_MATMUL_TILE_256x176	12.6				
CUBLASLT_MATMUL_TILE_256x184	12.6				
CUBLASLT_MATMUL_TILE_256x192	12.6				
CUBLASLT_MATMUL_TILE_256x200	12.6				
CUBLASLT_MATMUL_TILE_256x208	12.6				
CUBLASLT_MATMUL_TILE_256x216	12.6				
CUBLASLT_MATMUL_TILE_256x224	12.6				
CUBLASLT_MATMUL_TILE_256x232	12.6				
CUBLASLT_MATMUL_TILE_256x24	12.6				
CUBLASLT_MATMUL_TILE_256x240	12.6				
CUBLASLT_MATMUL_TILE_256x248	12.6				
CUBLASLT_MATMUL_TILE_256x256	12.6				
CUBLASLT_MATMUL_TILE_256x32	12.1				
CUBLASLT_MATMUL_TILE_256x40	12.6				
CUBLASLT_MATMUL_TILE_256x48	12.6				
CUBLASLT_MATMUL_TILE_256x512	12.8				
CUBLASLT_MATMUL_TILE_256x56	12.6				
CUBLASLT_MATMUL_TILE_256x64	10.1				
CUBLASLT_MATMUL_TILE_256x72	12.6				
CUBLASLT_MATMUL_TILE_256x8	12.6				
CUBLASLT_MATMUL_TILE_256x80	12.6				
CUBLASLT_MATMUL_TILE_256x88	12.6				
CUBLASLT_MATMUL_TILE_256x96	12.6				
CUBLASLT_MATMUL_TILE_264x128	12.6				
CUBLASLT_MATMUL_TILE_264x64	12.6				
CUBLASLT_MATMUL_TILE_272x128	12.6				
CUBLASLT_MATMUL_TILE_272x64	12.6				
CUBLASLT_MATMUL_TILE_280x128	12.6				
CUBLASLT_MATMUL_TILE_280x64	12.6				
CUBLASLT_MATMUL_TILE_288x128	12.6				
CUBLASLT_MATMUL_TILE_288x64	12.6				

Table 7.14 – continued from previous page

CUDA	A	D	C	R	HIP
CUBLASLT_MATMUL_TILE_296x128	12.6				
CUBLASLT_MATMUL_TILE_296x64	12.6				
CUBLASLT_MATMUL_TILE_304x128	12.6				
CUBLASLT_MATMUL_TILE_304x64	12.6				
CUBLASLT_MATMUL_TILE_312x128	12.6				
CUBLASLT_MATMUL_TILE_312x64	12.6				
CUBLASLT_MATMUL_TILE_320x104	12.6				
CUBLASLT_MATMUL_TILE_320x112	12.6				
CUBLASLT_MATMUL_TILE_320x120	12.6				
CUBLASLT_MATMUL_TILE_320x128	12.6				
CUBLASLT_MATMUL_TILE_320x136	12.6				
CUBLASLT_MATMUL_TILE_320x144	12.6				
CUBLASLT_MATMUL_TILE_320x152	12.6				
CUBLASLT_MATMUL_TILE_320x16	12.6				
CUBLASLT_MATMUL_TILE_320x160	12.6				
CUBLASLT_MATMUL_TILE_320x168	12.6				
CUBLASLT_MATMUL_TILE_320x176	12.6				
CUBLASLT_MATMUL_TILE_320x184	12.6				
CUBLASLT_MATMUL_TILE_320x192	12.6				
CUBLASLT_MATMUL_TILE_320x200	12.6				
CUBLASLT_MATMUL_TILE_320x24	12.6				
CUBLASLT_MATMUL_TILE_320x32	12.6				
CUBLASLT_MATMUL_TILE_320x40	12.6				
CUBLASLT_MATMUL_TILE_320x48	12.6				
CUBLASLT_MATMUL_TILE_320x56	12.6				
CUBLASLT_MATMUL_TILE_320x64	12.6				
CUBLASLT_MATMUL_TILE_320x72	12.6				
CUBLASLT_MATMUL_TILE_320x8	12.6				
CUBLASLT_MATMUL_TILE_320x80	12.6				
CUBLASLT_MATMUL_TILE_320x88	12.6				
CUBLASLT_MATMUL_TILE_320x96	12.6				
CUBLASLT_MATMUL_TILE_328x128	12.6				
CUBLASLT_MATMUL_TILE_328x64	12.6				
CUBLASLT_MATMUL_TILE_32x128	10.1				
CUBLASLT_MATMUL_TILE_32x16	10.1				
CUBLASLT_MATMUL_TILE_32x192	12.6				
CUBLASLT_MATMUL_TILE_32x256	12.1				
CUBLASLT_MATMUL_TILE_32x32	10.1				
CUBLASLT_MATMUL_TILE_32x320	12.6				
CUBLASLT_MATMUL_TILE_32x384	12.6				
CUBLASLT_MATMUL_TILE_32x448	12.6				
CUBLASLT_MATMUL_TILE_32x512	12.6				
CUBLASLT_MATMUL_TILE_32x576	12.6				
CUBLASLT_MATMUL_TILE_32x64	10.1				
CUBLASLT_MATMUL_TILE_32x640	12.6				
CUBLASLT_MATMUL_TILE_32x704	12.6				
CUBLASLT_MATMUL_TILE_32x768	12.6				
CUBLASLT_MATMUL_TILE_32x8	10.1				
CUBLASLT_MATMUL_TILE_336x128	12.6				
CUBLASLT_MATMUL_TILE_336x64	12.6				

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CUDA	A	D	C	R	HIP
CUBLASLT_MATMUL_TILE_344x128	12.6				
CUBLASLT_MATMUL_TILE_344x64	12.6				
CUBLASLT_MATMUL_TILE_352x128	12.6				
CUBLASLT_MATMUL_TILE_352x64	12.6				
CUBLASLT_MATMUL_TILE_360x128	12.6				
CUBLASLT_MATMUL_TILE_360x64	12.6				
CUBLASLT_MATMUL_TILE_368x128	12.6				
CUBLASLT_MATMUL_TILE_368x64	12.6				
CUBLASLT_MATMUL_TILE_376x128	12.6				
CUBLASLT_MATMUL_TILE_376x64	12.6				
CUBLASLT_MATMUL_TILE_384x104	12.6				
CUBLASLT_MATMUL_TILE_384x112	12.6				
CUBLASLT_MATMUL_TILE_384x120	12.6				
CUBLASLT_MATMUL_TILE_384x128	12.6				
CUBLASLT_MATMUL_TILE_384x136	12.6				
CUBLASLT_MATMUL_TILE_384x144	12.6				
CUBLASLT_MATMUL_TILE_384x152	12.6				
CUBLASLT_MATMUL_TILE_384x16	12.6				
CUBLASLT_MATMUL_TILE_384x160	12.6				
CUBLASLT_MATMUL_TILE_384x168	12.6				
CUBLASLT_MATMUL_TILE_384x24	12.6				
CUBLASLT_MATMUL_TILE_384x32	12.6				
CUBLASLT_MATMUL_TILE_384x40	12.6				
CUBLASLT_MATMUL_TILE_384x48	12.6				
CUBLASLT_MATMUL_TILE_384x56	12.6				
CUBLASLT_MATMUL_TILE_384x64	12.6				
CUBLASLT_MATMUL_TILE_384x72	12.6				
CUBLASLT_MATMUL_TILE_384x8	12.6				
CUBLASLT_MATMUL_TILE_384x80	12.6				
CUBLASLT_MATMUL_TILE_384x88	12.6				
CUBLASLT_MATMUL_TILE_384x96	12.6				
CUBLASLT_MATMUL_TILE_392x64	12.6				
CUBLASLT_MATMUL_TILE_400x64	12.6				
CUBLASLT_MATMUL_TILE_408x64	12.6				
CUBLASLT_MATMUL_TILE_40x128	12.6				
CUBLASLT_MATMUL_TILE_40x192	12.6				
CUBLASLT_MATMUL_TILE_40x256	12.6				
CUBLASLT_MATMUL_TILE_40x320	12.6				
CUBLASLT_MATMUL_TILE_40x384	12.6				
CUBLASLT_MATMUL_TILE_40x448	12.6				
CUBLASLT_MATMUL_TILE_40x512	12.6				
CUBLASLT_MATMUL_TILE_40x576	12.6				
CUBLASLT_MATMUL_TILE_40x64	12.6				
CUBLASLT_MATMUL_TILE_40x640	12.6				
CUBLASLT_MATMUL_TILE_40x704	12.6				
CUBLASLT_MATMUL_TILE_40x768	12.6				
CUBLASLT_MATMUL_TILE_416x64	12.6				
CUBLASLT_MATMUL_TILE_424x64	12.6				
CUBLASLT_MATMUL_TILE_432x64	12.6				
CUBLASLT_MATMUL_TILE_440x64	12.6				

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CUDA	A	D	C	R	HIP
CUBLASLT_MATMUL_TILE_448x104	12.6				
CUBLASLT_MATMUL_TILE_448x112	12.6				
CUBLASLT_MATMUL_TILE_448x120	12.6				
CUBLASLT_MATMUL_TILE_448x128	12.6				
CUBLASLT_MATMUL_TILE_448x136	12.6				
CUBLASLT_MATMUL_TILE_448x144	12.6				
CUBLASLT_MATMUL_TILE_448x16	12.6				
CUBLASLT_MATMUL_TILE_448x24	12.6				
CUBLASLT_MATMUL_TILE_448x32	12.6				
CUBLASLT_MATMUL_TILE_448x40	12.6				
CUBLASLT_MATMUL_TILE_448x48	12.6				
CUBLASLT_MATMUL_TILE_448x56	12.6				
CUBLASLT_MATMUL_TILE_448x64	12.6				
CUBLASLT_MATMUL_TILE_448x72	12.6				
CUBLASLT_MATMUL_TILE_448x8	12.6				
CUBLASLT_MATMUL_TILE_448x80	12.6				
CUBLASLT_MATMUL_TILE_448x88	12.6				
CUBLASLT_MATMUL_TILE_448x96	12.6				
CUBLASLT_MATMUL_TILE_456x64	12.6				
CUBLASLT_MATMUL_TILE_464x64	12.6				
CUBLASLT_MATMUL_TILE_472x64	12.6				
CUBLASLT_MATMUL_TILE_480x64	12.6				
CUBLASLT_MATMUL_TILE_488x64	12.6				
CUBLASLT_MATMUL_TILE_48x128	12.6				
CUBLASLT_MATMUL_TILE_48x192	12.6				
CUBLASLT_MATMUL_TILE_48x256	12.6				
CUBLASLT_MATMUL_TILE_48x320	12.6				
CUBLASLT_MATMUL_TILE_48x384	12.6				
CUBLASLT_MATMUL_TILE_48x448	12.6				
CUBLASLT_MATMUL_TILE_48x512	12.6				
CUBLASLT_MATMUL_TILE_48x576	12.6				
CUBLASLT_MATMUL_TILE_48x64	12.6				
CUBLASLT_MATMUL_TILE_48x640	12.6				
CUBLASLT_MATMUL_TILE_48x704	12.6				
CUBLASLT_MATMUL_TILE_48x768	12.6				
CUBLASLT_MATMUL_TILE_496x64	12.6				
CUBLASLT_MATMUL_TILE_504x64	12.6				
CUBLASLT_MATMUL_TILE_512x1024	12.8				
CUBLASLT_MATMUL_TILE_512x104	12.6				
CUBLASLT_MATMUL_TILE_512x112	12.6				
CUBLASLT_MATMUL_TILE_512x120	12.6				
CUBLASLT_MATMUL_TILE_512x128	12.6				
CUBLASLT_MATMUL_TILE_512x16	12.6				
CUBLASLT_MATMUL_TILE_512x24	12.6				
CUBLASLT_MATMUL_TILE_512x32	12.6				
CUBLASLT_MATMUL_TILE_512x40	12.6				
CUBLASLT_MATMUL_TILE_512x48	12.6				
CUBLASLT_MATMUL_TILE_512x512	12.8				
CUBLASLT_MATMUL_TILE_512x56	12.6				
CUBLASLT_MATMUL_TILE_512x64	10.1				

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CUDA	A	D	C	R	HIP
CUBLASLT_MATMUL_TILE_512x72	12.6				
CUBLASLT_MATMUL_TILE_512x8	12.6				
CUBLASLT_MATMUL_TILE_512x80	12.6				
CUBLASLT_MATMUL_TILE_512x88	12.6				
CUBLASLT_MATMUL_TILE_512x96	12.6				
CUBLASLT_MATMUL_TILE_520x64	12.6				
CUBLASLT_MATMUL_TILE_528x64	12.6				
CUBLASLT_MATMUL_TILE_536x64	12.6				
CUBLASLT_MATMUL_TILE_544x64	12.6				
CUBLASLT_MATMUL_TILE_552x64	12.6				
CUBLASLT_MATMUL_TILE_560x64	12.6				
CUBLASLT_MATMUL_TILE_568x64	12.6				
CUBLASLT_MATMUL_TILE_56x128	12.6				
CUBLASLT_MATMUL_TILE_56x192	12.6				
CUBLASLT_MATMUL_TILE_56x256	12.6				
CUBLASLT_MATMUL_TILE_56x320	12.6				
CUBLASLT_MATMUL_TILE_56x384	12.6				
CUBLASLT_MATMUL_TILE_56x448	12.6				
CUBLASLT_MATMUL_TILE_56x512	12.6				
CUBLASLT_MATMUL_TILE_56x576	12.6				
CUBLASLT_MATMUL_TILE_56x640	12.6				
CUBLASLT_MATMUL_TILE_56x704	12.6				
CUBLASLT_MATMUL_TILE_56x768	12.6				
CUBLASLT_MATMUL_TILE_576x104	12.6				
CUBLASLT_MATMUL_TILE_576x112	12.6				
CUBLASLT_MATMUL_TILE_576x16	12.6				
CUBLASLT_MATMUL_TILE_576x24	12.6				
CUBLASLT_MATMUL_TILE_576x32	12.6				
CUBLASLT_MATMUL_TILE_576x40	12.6				
CUBLASLT_MATMUL_TILE_576x48	12.6				
CUBLASLT_MATMUL_TILE_576x56	12.6				
CUBLASLT_MATMUL_TILE_576x64	12.6				
CUBLASLT_MATMUL_TILE_576x72	12.6				
CUBLASLT_MATMUL_TILE_576x8	12.6				
CUBLASLT_MATMUL_TILE_576x80	12.6				
CUBLASLT_MATMUL_TILE_576x88	12.6				
CUBLASLT_MATMUL_TILE_576x96	12.6				
CUBLASLT_MATMUL_TILE_584x64	12.6				
CUBLASLT_MATMUL_TILE_592x64	12.6				
CUBLASLT_MATMUL_TILE_600x64	12.6				
CUBLASLT_MATMUL_TILE_608x64	12.6				
CUBLASLT_MATMUL_TILE_616x64	12.6				
CUBLASLT_MATMUL_TILE_624x64	12.6				
CUBLASLT_MATMUL_TILE_632x64	12.6				
CUBLASLT_MATMUL_TILE_640x16	12.6				
CUBLASLT_MATMUL_TILE_640x24	12.6				
CUBLASLT_MATMUL_TILE_640x32	12.6				
CUBLASLT_MATMUL_TILE_640x40	12.6				
CUBLASLT_MATMUL_TILE_640x48	12.6				
CUBLASLT_MATMUL_TILE_640x56	12.6				

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CUDA	A	D	C	R	HIP
CUBLASLT_MATMUL_TILE_640x64	12.6				
CUBLASLT_MATMUL_TILE_640x72	12.6				
CUBLASLT_MATMUL_TILE_640x8	12.6				
CUBLASLT_MATMUL_TILE_640x80	12.6				
CUBLASLT_MATMUL_TILE_640x88	12.6				
CUBLASLT_MATMUL_TILE_640x96	12.6				
CUBLASLT_MATMUL_TILE_648x64	12.6				
CUBLASLT_MATMUL_TILE_64x104	12.6				
CUBLASLT_MATMUL_TILE_64x112	12.6				
CUBLASLT_MATMUL_TILE_64x120	12.6				
CUBLASLT_MATMUL_TILE_64x128	10.1				
CUBLASLT_MATMUL_TILE_64x136	12.6				
CUBLASLT_MATMUL_TILE_64x144	12.6				
CUBLASLT_MATMUL_TILE_64x152	12.6				
CUBLASLT_MATMUL_TILE_64x16	12.6				
CUBLASLT_MATMUL_TILE_64x160	12.6				
CUBLASLT_MATMUL_TILE_64x168	12.6				
CUBLASLT_MATMUL_TILE_64x176	12.6				
CUBLASLT_MATMUL_TILE_64x184	12.6				
CUBLASLT_MATMUL_TILE_64x192	12.6				
CUBLASLT_MATMUL_TILE_64x200	12.6				
CUBLASLT_MATMUL_TILE_64x208	12.6				
CUBLASLT_MATMUL_TILE_64x216	12.6				
CUBLASLT_MATMUL_TILE_64x224	12.6				
CUBLASLT_MATMUL_TILE_64x232	12.6				
CUBLASLT_MATMUL_TILE_64x24	12.6				
CUBLASLT_MATMUL_TILE_64x240	12.6				
CUBLASLT_MATMUL_TILE_64x248	12.6				
CUBLASLT_MATMUL_TILE_64x256	10.1				
CUBLASLT_MATMUL_TILE_64x264	12.6				
CUBLASLT_MATMUL_TILE_64x272	12.6				
CUBLASLT_MATMUL_TILE_64x280	12.6				
CUBLASLT_MATMUL_TILE_64x288	12.6				
CUBLASLT_MATMUL_TILE_64x296	12.6				
CUBLASLT_MATMUL_TILE_64x304	12.6				
CUBLASLT_MATMUL_TILE_64x312	12.6				
CUBLASLT_MATMUL_TILE_64x32	10.1				
CUBLASLT_MATMUL_TILE_64x320	12.6				
CUBLASLT_MATMUL_TILE_64x328	12.6				
CUBLASLT_MATMUL_TILE_64x336	12.6				
CUBLASLT_MATMUL_TILE_64x344	12.6				
CUBLASLT_MATMUL_TILE_64x352	12.6				
CUBLASLT_MATMUL_TILE_64x360	12.6				
CUBLASLT_MATMUL_TILE_64x368	12.6				
CUBLASLT_MATMUL_TILE_64x376	12.6				
CUBLASLT_MATMUL_TILE_64x384	12.6				
CUBLASLT_MATMUL_TILE_64x392	12.6				
CUBLASLT_MATMUL_TILE_64x40	12.6				
CUBLASLT_MATMUL_TILE_64x400	12.6				
CUBLASLT_MATMUL_TILE_64x408	12.6				

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CUDA	A	D	C	R	HIP
CUBLASLT_MATMUL_TILE_64x416	12.6				
CUBLASLT_MATMUL_TILE_64x424	12.6				
CUBLASLT_MATMUL_TILE_64x432	12.6				
CUBLASLT_MATMUL_TILE_64x440	12.6				
CUBLASLT_MATMUL_TILE_64x448	12.6				
CUBLASLT_MATMUL_TILE_64x456	12.6				
CUBLASLT_MATMUL_TILE_64x464	12.6				
CUBLASLT_MATMUL_TILE_64x472	12.6				
CUBLASLT_MATMUL_TILE_64x48	12.6				
CUBLASLT_MATMUL_TILE_64x480	12.6				
CUBLASLT_MATMUL_TILE_64x488	12.6				
CUBLASLT_MATMUL_TILE_64x496	12.6				
CUBLASLT_MATMUL_TILE_64x504	12.6				
CUBLASLT_MATMUL_TILE_64x512	10.1				
CUBLASLT_MATMUL_TILE_64x520	12.6				
CUBLASLT_MATMUL_TILE_64x528	12.6				
CUBLASLT_MATMUL_TILE_64x536	12.6				
CUBLASLT_MATMUL_TILE_64x544	12.6				
CUBLASLT_MATMUL_TILE_64x552	12.6				
CUBLASLT_MATMUL_TILE_64x56	12.6				
CUBLASLT_MATMUL_TILE_64x560	12.6				
CUBLASLT_MATMUL_TILE_64x568	12.6				
CUBLASLT_MATMUL_TILE_64x576	12.6				
CUBLASLT_MATMUL_TILE_64x584	12.6				
CUBLASLT_MATMUL_TILE_64x592	12.6				
CUBLASLT_MATMUL_TILE_64x600	12.6				
CUBLASLT_MATMUL_TILE_64x608	12.6				
CUBLASLT_MATMUL_TILE_64x616	12.6				
CUBLASLT_MATMUL_TILE_64x624	12.6				
CUBLASLT_MATMUL_TILE_64x632	12.6				
CUBLASLT_MATMUL_TILE_64x64	10.1				
CUBLASLT_MATMUL_TILE_64x640	12.6				
CUBLASLT_MATMUL_TILE_64x648	12.6				
CUBLASLT_MATMUL_TILE_64x656	12.6				
CUBLASLT_MATMUL_TILE_64x664	12.6				
CUBLASLT_MATMUL_TILE_64x672	12.6				
CUBLASLT_MATMUL_TILE_64x680	12.6				
CUBLASLT_MATMUL_TILE_64x688	12.6				
CUBLASLT_MATMUL_TILE_64x696	12.6				
CUBLASLT_MATMUL_TILE_64x704	12.6				
CUBLASLT_MATMUL_TILE_64x712	12.6				
CUBLASLT_MATMUL_TILE_64x72	12.6				
CUBLASLT_MATMUL_TILE_64x720	12.6				
CUBLASLT_MATMUL_TILE_64x728	12.6				
CUBLASLT_MATMUL_TILE_64x736	12.6				
CUBLASLT_MATMUL_TILE_64x744	12.6				
CUBLASLT_MATMUL_TILE_64x752	12.6				
CUBLASLT_MATMUL_TILE_64x760	12.6				
CUBLASLT_MATMUL_TILE_64x768	12.6				
CUBLASLT_MATMUL_TILE_64x8	10.1				

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CUDA	A	D	C	R	HIP
CUBLASLT_MATMUL_TILE_64x80	12.6				
CUBLASLT_MATMUL_TILE_64x88	12.6				
CUBLASLT_MATMUL_TILE_64x96	11.3				
CUBLASLT_MATMUL_TILE_656x64	12.6				
CUBLASLT_MATMUL_TILE_664x64	12.6				
CUBLASLT_MATMUL_TILE_672x64	12.6				
CUBLASLT_MATMUL_TILE_680x64	12.6				
CUBLASLT_MATMUL_TILE_688x64	12.6				
CUBLASLT_MATMUL_TILE_696x64	12.6				
CUBLASLT_MATMUL_TILE_704x16	12.6				
CUBLASLT_MATMUL_TILE_704x24	12.6				
CUBLASLT_MATMUL_TILE_704x32	12.6				
CUBLASLT_MATMUL_TILE_704x40	12.6				
CUBLASLT_MATMUL_TILE_704x48	12.6				
CUBLASLT_MATMUL_TILE_704x56	12.6				
CUBLASLT_MATMUL_TILE_704x64	12.6				
CUBLASLT_MATMUL_TILE_704x72	12.6				
CUBLASLT_MATMUL_TILE_704x8	12.6				
CUBLASLT_MATMUL_TILE_704x80	12.6				
CUBLASLT_MATMUL_TILE_704x88	12.6				
CUBLASLT_MATMUL_TILE_712x64	12.6				
CUBLASLT_MATMUL_TILE_720x64	12.6				
CUBLASLT_MATMUL_TILE_728x64	12.6				
CUBLASLT_MATMUL_TILE_72x128	12.6				
CUBLASLT_MATMUL_TILE_72x192	12.6				
CUBLASLT_MATMUL_TILE_72x256	12.6				
CUBLASLT_MATMUL_TILE_72x320	12.6				
CUBLASLT_MATMUL_TILE_72x384	12.6				
CUBLASLT_MATMUL_TILE_72x448	12.6				
CUBLASLT_MATMUL_TILE_72x512	12.6				
CUBLASLT_MATMUL_TILE_72x576	12.6				
CUBLASLT_MATMUL_TILE_72x64	12.6				
CUBLASLT_MATMUL_TILE_72x640	12.6				
CUBLASLT_MATMUL_TILE_736x64	12.6				
CUBLASLT_MATMUL_TILE_744x64	12.6				
CUBLASLT_MATMUL_TILE_752x64	12.6				
CUBLASLT_MATMUL_TILE_760x64	12.6				
CUBLASLT_MATMUL_TILE_768x16	12.6				
CUBLASLT_MATMUL_TILE_768x24	12.6				
CUBLASLT_MATMUL_TILE_768x32	12.6				
CUBLASLT_MATMUL_TILE_768x40	12.6				
CUBLASLT_MATMUL_TILE_768x48	12.6				
CUBLASLT_MATMUL_TILE_768x56	12.6				
CUBLASLT_MATMUL_TILE_768x64	12.6				
CUBLASLT_MATMUL_TILE_768x72	12.6				
CUBLASLT_MATMUL_TILE_768x8	12.6				
CUBLASLT_MATMUL_TILE_768x80	12.6				
CUBLASLT_MATMUL_TILE_80x128	12.6				
CUBLASLT_MATMUL_TILE_80x192	12.6				
CUBLASLT_MATMUL_TILE_80x256	12.6				

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CUDA	A	D	C	R	HIP
CUBLASLT_MATMUL_TILE_80x320	12.6				
CUBLASLT_MATMUL_TILE_80x384	12.6				
CUBLASLT_MATMUL_TILE_80x448	12.6				
CUBLASLT_MATMUL_TILE_80x512	12.6				
CUBLASLT_MATMUL_TILE_80x576	12.6				
CUBLASLT_MATMUL_TILE_80x64	12.6				
CUBLASLT_MATMUL_TILE_88x128	12.6				
CUBLASLT_MATMUL_TILE_88x192	12.6				
CUBLASLT_MATMUL_TILE_88x256	12.6				
CUBLASLT_MATMUL_TILE_88x320	12.6				
CUBLASLT_MATMUL_TILE_88x384	12.6				
CUBLASLT_MATMUL_TILE_88x448	12.6				
CUBLASLT_MATMUL_TILE_88x512	12.6				
CUBLASLT_MATMUL_TILE_88x64	12.6				
CUBLASLT_MATMUL_TILE_8x128	12.6				
CUBLASLT_MATMUL_TILE_8x16	10.1				
CUBLASLT_MATMUL_TILE_8x192	12.6				
CUBLASLT_MATMUL_TILE_8x256	12.6				
CUBLASLT_MATMUL_TILE_8x32	10.1				
CUBLASLT_MATMUL_TILE_8x320	12.6				
CUBLASLT_MATMUL_TILE_8x384	12.6				
CUBLASLT_MATMUL_TILE_8x448	12.6				
CUBLASLT_MATMUL_TILE_8x512	12.6				
CUBLASLT_MATMUL_TILE_8x576	12.6				
CUBLASLT_MATMUL_TILE_8x64	10.1				
CUBLASLT_MATMUL_TILE_8x640	12.6				
CUBLASLT_MATMUL_TILE_8x704	12.6				
CUBLASLT_MATMUL_TILE_8x768	12.6				
CUBLASLT_MATMUL_TILE_8x8	10.1				
CUBLASLT_MATMUL_TILE_96x128	11.3				
CUBLASLT_MATMUL_TILE_96x192	12.6				
CUBLASLT_MATMUL_TILE_96x256	12.6				
CUBLASLT_MATMUL_TILE_96x320	12.6				
CUBLASLT_MATMUL_TILE_96x384	12.6				
CUBLASLT_MATMUL_TILE_96x448	12.6				
CUBLASLT_MATMUL_TILE_96x512	12.6				
CUBLASLT_MATMUL_TILE_96x64	11.3				
CUBLASLT_MATMUL_TILE_END	10.1				
CUBLASLT_MATMUL_TILE_UNDEFINED	10.1				
CUBLASLT_MATRIX_LAYOUT_BATCH_COUNT	10.1				HIPBLASLT_MATRIX_LAYOUT_
CUBLASLT_MATRIX_LAYOUT_BATCH_MODE	12.9				
CUBLASLT_MATRIX_LAYOUT_COLS	10.1				HIPBLASLT_MATRIX_LAYOUT_
CUBLASLT_MATRIX_LAYOUT_LD	10.1				HIPBLASLT_MATRIX_LAYOUT_
CUBLASLT_MATRIX_LAYOUT_ORDER	10.1				HIPBLASLT_MATRIX_LAYOUT_
CUBLASLT_MATRIX_LAYOUT_PLANE_OFFSET	10.1				
CUBLASLT_MATRIX_LAYOUT_ROWS	10.1				HIPBLASLT_MATRIX_LAYOUT_
CUBLASLT_MATRIX_LAYOUT_STRIDED_BATCH_OFFSET	10.1				HIPBLASLT_MATRIX_LAYOUT_
CUBLASLT_MATRIX_LAYOUT_TYPE	10.1				HIPBLASLT_MATRIX_LAYOUT_
CUBLASLT_MATRIX_TRANSFORM_DESC_POINTER_MODE	10.1				HIPBLASLT_MATRIX_TRANSFO
CUBLASLT_MATRIX_TRANSFORM_DESC_SCALE_TYPE	10.1				HIPBLASLT_MATRIX_TRANSFO

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CUDA	A	D	C	R	HIP
CUBLASLT_MATRIX_TRANSFORM_DESC_TRANSA	10.1				HIPBLASLT_MATRIX_TRANSFO
CUBLASLT_MATRIX_TRANSFORM_DESC_TRANSB	10.1				HIPBLASLT_MATRIX_TRANSFO
CUBLASLT_NUMERICAL_IMPL_FLAGS_ACCUMULATOR_16F	11.0				
CUBLASLT_NUMERICAL_IMPL_FLAGS_ACCUMULATOR_32F	11.0				
CUBLASLT_NUMERICAL_IMPL_FLAGS_ACCUMULATOR_32I	11.0				
CUBLASLT_NUMERICAL_IMPL_FLAGS_ACCUMULATOR_64F	11.0				
CUBLASLT_NUMERICAL_IMPL_FLAGS_ACCUMULATOR_TYPE_MASK	11.0				
CUBLASLT_NUMERICAL_IMPL_FLAGS_DMMA	11.0				
CUBLASLT_NUMERICAL_IMPL_FLAGS_FMA	11.0				
CUBLASLT_NUMERICAL_IMPL_FLAGS_GAUSSIAN	11.0				
CUBLASLT_NUMERICAL_IMPL_FLAGS_HMMA	11.0				
CUBLASLT_NUMERICAL_IMPL_FLAGS_IMMA	11.0				
CUBLASLT_NUMERICAL_IMPL_FLAGS_INPUT_16BF	11.0				
CUBLASLT_NUMERICAL_IMPL_FLAGS_INPUT_16F	11.0				
CUBLASLT_NUMERICAL_IMPL_FLAGS_INPUT_32F	11.0				
CUBLASLT_NUMERICAL_IMPL_FLAGS_INPUT_64F	11.0				
CUBLASLT_NUMERICAL_IMPL_FLAGS_INPUT_8F_E4M3	11.8				
CUBLASLT_NUMERICAL_IMPL_FLAGS_INPUT_8F_E5M2	11.8				
CUBLASLT_NUMERICAL_IMPL_FLAGS_INPUT_8I	11.0				
CUBLASLT_NUMERICAL_IMPL_FLAGS_INPUT_TF32	11.0				
CUBLASLT_NUMERICAL_IMPL_FLAGS_OP_INPUT_TYPE_MASK	11.0				
CUBLASLT_NUMERICAL_IMPL_FLAGS_OP_TYPE_MASK	11.0				
CUBLASLT_NUMERICAL_IMPL_FLAGS_TENSOR_OP_MASK	11.0				
CUBLASLT_ORDER_COL	10.1				HIPBLASLT_ORDER_COL
CUBLASLT_ORDER_COL32	10.1				
CUBLASLT_ORDER_COL32_2R_4R4	11.0				
CUBLASLT_ORDER_COL4_4R2_8C	10.1				
CUBLASLT_ORDER_ROW	10.1				HIPBLASLT_ORDER_ROW
CUBLASLT_POINTER_MODE_ALPHA_DEVICE_VECTOR_BETA_HOST	11.4				HIPBLASLT_POINTER_MODE_A
CUBLASLT_POINTER_MODE_ALPHA_DEVICE_VECTOR_BETA_ZERO	10.1				
CUBLASLT_POINTER_MODE_DEVICE					HIPBLASLT_POINTER_MODE_I
CUBLASLT_POINTER_MODE_DEVICE_VECTOR	10.1				
CUBLASLT_POINTER_MODE_HOST	10.1				HIPBLASLT_POINTER_MODE_I
CUBLASLT_POINTER_MODE_MASK_ALPHA_DEVICE_VECTOR_BETA_HOST	11.4				
CUBLASLT_POINTER_MODE_MASK_ALPHA_DEVICE_VECTOR_BETA_ZERO	10.1				
CUBLASLT_POINTER_MODE_MASK_DEVICE	10.1				
CUBLASLT_POINTER_MODE_MASK_DEVICE_VECTOR	10.1				
CUBLASLT_POINTER_MODE_MASK_HOST	10.1				
CUBLASLT_REDUCTION_SCHEME_COMPUTE_TYPE	10.1				
CUBLASLT_REDUCTION_SCHEME_INPLACE	10.1				
CUBLASLT_REDUCTION_SCHEME_MASK	10.1				
CUBLASLT_REDUCTION_SCHEME_NONE	10.1				
CUBLASLT_REDUCTION_SCHEME_OUTPUT_TYPE	10.1				
CUBLASLT_SEARCH_BEST_FIT	10.1				
CUBLASLT_SEARCH_LIMITED_BY_ALGO_ID	10.1				
CUBLASLT_SEARCH_RESERVED_02	11.0				
CUBLASLT_SEARCH_RESERVED_03	11.0				
CUBLASLT_SEARCH_RESERVED_04	11.0				
CUBLASLT_SEARCH_RESERVED_05	11.0				
CUBLASLT_SEARCH_RESERVED_06	12.6				

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CUDA	A	D	C	R	HIP
CUBLASLT_SEARCH_RESERVED_07	12.6				
CUBLASLT_SEARCH_RESERVED_08	12.6				
CUBLASLT_SEARCH_RESERVED_09	12.6				
cublasLtBatchMode_t	12.9				
cublasLtClusterShape_t	11.8				
cublasLtContext	10.1				
cublasLtEpilogue_t	10.1				hipblasLtEpilogue_t
cublasLtHandle_t	10.1				hipblasLtHandle_t
cublasLtLoggerCallback_t	11.0				
cublasLtMatmulAlgoCapAttributes_t	10.1				
cublasLtMatmulAlgoConfigAttributes_t	10.1				
cublasLtMatmulAlgo_t	10.1				hipblasLtMatmulAlgo_t
cublasLtMatmulDescAttributes_t	10.1				hipblasLtMatmulDescAttr
cublasLtMatmulDescOpaque_t	11.0				hipblasLtMatmulDescOpaq
cublasLtMatmulDesc_t	10.1				hipblasLtMatmulDesc_t
cublasLtMatmulHeuristicResult_t	10.1				hipblasLtMatmulHeuristi
cublasLtMatmulInnerShape_t	11.8				
cublasLtMatmulMatrixScale_t	12.8				hipblasLtMatmulMatrixSc
cublasLtMatmulPreferenceAttributes_t	10.1				hipblasLtMatmulPreferen
cublasLtMatmulPreferenceOpaque_t	11.0				hipblasLtMatmulPreferen
cublasLtMatmulPreference_t	10.1				hipblasLtMatmulPreferen
cublasLtMatmulSearch_t	10.1				
cublasLtMatmulStages_t	11.0				
cublasLtMatmulTile_t	10.1				
cublasLtMatrixLayoutAttribute_t	10.1				hipblasLtMatrixLayoutAt
cublasLtMatrixLayoutOpaque_t	11.0				hipblasLtMatrixLayoutOp
cublasLtMatrixLayoutStruct	10.1			10.2	hipblasLtMatrixLayoutOp
cublasLtMatrixLayout_t	10.1				hipblasLtMatrixLayout_t
cublasLtMatrixTransformDescAttributes_t	10.1				hipblasLtMatrixTransfor
cublasLtMatrixTransformDescOpaque_t	11.0				hipblasLtMatrixTransfor
cublasLtMatrixTransformDesc_t	10.1				hipblasLtMatrixTransfor
cublasLtNumericalImplFlags_t	11.0				
cublasLtOrder_t	10.1				hipblasLtOrder_t
cublasLtPointerModeMask_t	10.1				
cublasLtPointerMode_t	10.1				hipblasLtPointerMode_t
cublasLtReductionScheme_t	10.1				

7.6.4 4. CUBLAS Helper Function Reference

CUDA	A	D	C	R	HIP	A	D	C	R	E
cublasAlloc										
cublasCreate					hipblasCreate	1.8.2				
cublasCreate_v2					hipblasCreate	1.8.2				
cublasDestroy					hipblasDestroy	1.8.2				
cublasDestroy_v2					hipblasDestroy	1.8.2				
cublasFree										
cublasGetAtomicsMode					hipblasGetAtomicsMode	3.10.0				
cublasGetCudartVersion	10.1									
cublasGetEmulationStrategy	12.9									

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CUDA	A	D	C	R	HIP	A	D	C	R	E
cublasGetError										
cublasGetLoggerCallback	9.2									
cublasGetMathMode	9.0				hipblasGetMathMode	6.1.0				
cublasGetMatrix					hipblasGetMatrix	1.8.2				
cublasGetMatrixAsync					hipblasGetMatrixAsync	3.7.0				
cublasGetMatrixAsync_64	12.0									
cublasGetMatrix_64	12.0									
cublasGetPointerMode					hipblasGetPointerMode	1.8.2				
cublasGetPointerMode_v2					hipblasGetPointerMode	1.8.2				
cublasGetProperty										
cublasGetSmCountTarget	11.3									
cublasGetStatusName	11.4									
cublasGetStatusString	11.4									
cublasGetStream					hipblasGetStream	1.8.2				
cublasGetStream_v2					hipblasGetStream	1.8.2				
cublasGetVector					hipblasGetVector	1.8.2				
cublasGetVectorAsync					hipblasGetVectorAsync	3.7.0				
cublasGetVectorAsync_64	12.0									
cublasGetVector_64	12.0									
cublasGetVersion										
cublasGetVersion_v2										
cublasInit										
cublasLogCallback	9.2									
cublasLoggerConfigure	9.2									
cublasMigrateComputeType	11.0									
cublasSetAtomicsMode					hipblasSetAtomicsMode	3.10.0				
cublasSetEmulationStrategy	12.9									
cublasSetKernelStream										
cublasSetLoggerCallback	9.2									
cublasSetMathMode	9.0				hipblasSetMathMode	6.1.0				
cublasSetMatrix					hipblasSetMatrix	1.8.2				
cublasSetMatrixAsync					hipblasSetMatrixAsync	3.7.0				
cublasSetMatrixAsync_64	12.0									
cublasSetMatrix_64	12.0									
cublasSetPointerMode					hipblasSetPointerMode	1.8.2				
cublasSetPointerMode_v2					hipblasSetPointerMode	1.8.2				
cublasSetSmCountTarget	11.3									
cublasSetStream					hipblasSetStream	1.8.2				
cublasSetStream_v2					hipblasSetStream	1.8.2				
cublasSetVector					hipblasSetVector	1.8.2				
cublasSetVectorAsync					hipblasSetVectorAsync	3.7.0				
cublasSetVectorAsync_64	12.0									
cublasSetVector_64	12.0									
cublasShutdown										
cublasXerbla										

7.6.5 5. CUBLAS Level-1 Function Reference

CUDA	A	D	C	R	HIP	A	D	C	R	E
cublasCaxpy					hipblasCaxpy	3.0.0		7.0.0		
cublasCaxpy_64	12.0				hipblasCaxpy_64	6.1.0		7.0.0		
cublasCaxpy_v2					hipblasCaxpy	3.0.0		7.0.0		
cublasCaxpy_v2_64	12.0				hipblasCaxpy_64	6.1.0		7.0.0		
cublasCcopy					hipblasCcopy	3.0.0		7.0.0		
cublasCcopy_64	12.0				hipblasCcopy_64	6.1.0		7.0.0		
cublasCcopy_v2					hipblasCcopy	3.0.0		7.0.0		
cublasCcopy_v2_64	12.0				hipblasCcopy_64	6.1.0		7.0.0		
cublasCdotc					hipblasCdotc	3.0.0		7.0.0		
cublasCdotc_64	12.0				hipblasCdotc_64	6.1.0		7.0.0		
cublasCdotc_v2					hipblasCdotc	3.0.0		7.0.0		
cublasCdotc_v2_64	12.0				hipblasCdotc_64	6.1.0		7.0.0		
cublasCdotu					hipblasCdotu	3.0.0		7.0.0		
cublasCdotu_64	12.0				hipblasCdotu_64	6.1.0		7.0.0		
cublasCdotu_v2					hipblasCdotu	3.0.0		7.0.0		
cublasCdotu_v2_64	12.0				hipblasCdotu_64	6.1.0		7.0.0		
cublasCrot					hipblasCrot	3.0.0		7.0.0		
cublasCrot_64	12.0				hipblasCrot_64	6.1.0		7.0.0		
cublasCrot_v2					hipblasCrot	3.0.0		7.0.0		
cublasCrot_v2_64	12.0				hipblasCrot_64	6.1.0		7.0.0		
cublasCrotg					hipblasCrotg	3.0.0		7.0.0		
cublasCrotg_v2					hipblasCrotg	3.0.0		7.0.0		
cublasCscal					hipblasCscal	1.6.0		7.0.0		
cublasCscal_64	12.0				hipblasCscal_64	6.1.0		7.0.0		
cublasCscal_v2					hipblasCscal	1.6.0		7.0.0		
cublasCscal_v2_64	12.0				hipblasCscal_64	6.1.0		7.0.0		
cublasCsrot					hipblasCsrot	3.0.0		7.0.0		
cublasCsrot_64	12.0				hipblasCsrot_64	6.1.0		7.0.0		
cublasCsrot_v2					hipblasCsrot	3.0.0		7.0.0		
cublasCsrot_v2_64	12.0				hipblasCsrot_64	6.1.0		7.0.0		
cublasCsscal					hipblasCsscal	3.0.0		7.0.0		
cublasCsscal_64	12.0				hipblasCsscal_64	6.1.0		7.0.0		
cublasCsscal_v2					hipblasCsscal	3.0.0		7.0.0		
cublasCsscal_v2_64	12.0				hipblasCsscal_64	6.1.0		7.0.0		
cublasCswap					hipblasCswap	3.0.0		7.0.0		
cublasCswap_64	12.0				hipblasCswap_64	6.1.0		7.0.0		
cublasCswap_v2					hipblasCswap	3.0.0		7.0.0		
cublasCswap_v2_64	12.0				hipblasCswap_64	6.1.0		7.0.0		
cublasDasum					hipblasDasum	1.8.2				
cublasDasum_64	12.0				hipblasDasum_64	6.1.0				
cublasDasum_v2					hipblasDasum	1.8.2				
cublasDasum_v2_64	12.0				hipblasDasum_64	6.1.0				
cublasDaxpy					hipblasDaxpy	1.8.2				
cublasDaxpy_64	12.0				hipblasDaxpy_64	6.1.0				
cublasDaxpy_v2					hipblasDaxpy	1.8.2				
cublasDaxpy_v2_64	12.0				hipblasDaxpy_64	6.1.0				
cublasDcopy					hipblasDcopy	1.8.2				
cublasDcopy_64	12.0				hipblasDcopy_64	6.1.0				
cublasDcopy_v2					hipblasDcopy	1.8.2				

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Table 7.16 – continued from previous page

CUDA	A	D	C	R	HIP	A	D	C	R	E
cublasDcopy_v2_64	12.0				hipblasDcopy_64	6.1.0				
cublasDdot					hipblasDdot	3.0.0				
cublasDdot_64	12.0				hipblasDdot_64	6.1.0				
cublasDdot_v2					hipblasDdot	3.0.0				
cublasDdot_v2_64	12.0				hipblasDdot_64	6.1.0				
cublasDnrm2					hipblasDnrm2	1.8.2				
cublasDnrm2_64	12.0				hipblasDnrm2_64	6.1.0				
cublasDnrm2_v2					hipblasDnrm2	1.8.2				
cublasDnrm2_v2_64	12.0				hipblasDnrm2_64	6.1.0				
cublasDrot					hipblasDrot	3.0.0				
cublasDrot_64	12.0				hipblasDrot_64	6.1.0				
cublasDrot_v2					hipblasDrot	3.0.0				
cublasDrot_v2_64	12.0				hipblasDrot_64	6.1.0				
cublasDrotg					hipblasDrotg	3.0.0				
cublasDrotg_v2					hipblasDrotg	3.0.0				
cublasDrotm					hipblasDrotm	3.0.0				
cublasDrotm_64	12.0				hipblasDrotm_64	6.1.0				
cublasDrotm_v2					hipblasDrotm	3.0.0				
cublasDrotm_v2_64	12.0				hipblasDrotm_64	6.1.0				
cublasDrotmg					hipblasDrotmg	3.0.0				
cublasDrotmg_v2					hipblasDrotmg	3.0.0				
cublasDscal					hipblasDscal	1.8.2				
cublasDscal_64	12.0				hipblasDscal_64	6.1.0				
cublasDscal_v2					hipblasDscal	1.8.2				
cublasDscal_v2_64	12.0				hipblasDscal_64	6.1.0				
cublasDswap					hipblasDswap	3.0.0				
cublasDswap_64	12.0				hipblasDswap_64	6.1.0				
cublasDswap_v2					hipblasDswap	3.0.0				
cublasDswap_v2_64	12.0				hipblasDswap_64	6.1.0				
cublasDzasum					hipblasDzasum	3.0.0		7.0.0		
cublasDzasum_64	12.0				hipblasDzasum_64	6.1.0		7.0.0		
cublasDzasum_v2					hipblasDzasum	3.0.0		7.0.0		
cublasDzasum_v2_64	12.0				hipblasDzasum_64	6.1.0		7.0.0		
cublasDznrm2					hipblasDznrm2	3.0.0		7.0.0		
cublasDznrm2_64	12.0				hipblasDznrm2_64	6.1.0		7.0.0		
cublasDznrm2_v2					hipblasDznrm2	3.0.0		7.0.0		
cublasDznrm2_v2_64	12.0				hipblasDznrm2_64	6.1.0		7.0.0		
cublasIcamax					hipblasIcamax	3.0.0		7.0.0		
cublasIcamax_64	12.0				hipblasIcamax_64	6.1.0		7.0.0		
cublasIcamax_v2					hipblasIcamax	3.0.0		7.0.0		
cublasIcamax_v2_64	12.0				hipblasIcamax_64	6.1.0		7.0.0		
cublasIcamin					hipblasIcamin	3.0.0		7.0.0		
cublasIcamin_64	12.0				hipblasIcamin_64	6.1.0		7.0.0		
cublasIcamin_v2					hipblasIcamin	3.0.0		7.0.0		
cublasIcamin_v2_64	12.0				hipblasIcamin_64	6.1.0		7.0.0		
cublasIdamax					hipblasIdamax	1.8.2				
cublasIdamax_64	12.0				hipblasIdamax_64	6.1.0				
cublasIdamax_v2					hipblasIdamax	1.8.2				
cublasIdamax_v2_64	12.0				hipblasIdamax_64	6.1.0				
cublasIdamin					hipblasIdamin	3.0.0				

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Table 7.16 – continued from previous page

CUDA	A	D	C	R	HIP	A	D	C	R	E
cublasIdamin_64	12.0				hipblasIdamin_64	6.1.0				
cublasIdamin_v2					hipblasIdamin	3.0.0				
cublasIdamin_v2_64	12.0				hipblasIdamin_64	6.1.0				
cublasIsamax					hipblasIsamax	1.8.2				
cublasIsamax_64	12.0				hipblasIsamax_64	6.1.0				
cublasIsamax_v2					hipblasIsamax	1.8.2				
cublasIsamax_v2_64	12.0				hipblasIsamax_64	6.1.0				
cublasIsamin					hipblasIsamin	3.0.0				
cublasIsamin_64	12.0				hipblasIsamin_64	6.1.0				
cublasIsamin_v2					hipblasIsamin	3.0.0				
cublasIsamin_v2_64	12.0				hipblasIsamin_64	6.1.0				
cublasIzamax					hipblasIzamax	3.0.0		7.0.0		
cublasIzamax_64	12.0				hipblasIzamax_64	6.1.0		7.0.0		
cublasIzamax_v2					hipblasIzamax	3.0.0		7.0.0		
cublasIzamax_v2_64	12.0				hipblasIzamax_64	6.1.0		7.0.0		
cublasIzamin					hipblasIzamin	3.0.0		7.0.0		
cublasIzamin_64	12.0				hipblasIzamin_64	6.1.0		7.0.0		
cublasIzamin_v2					hipblasIzamin	3.0.0		7.0.0		
cublasIzamin_v2_64	12.0				hipblasIzamin_64	6.1.0		7.0.0		
cublasNrm2Ex	8.0				hipblasNrm2Ex	4.1.0		7.0.0		
cublasNrm2Ex_64	12.0				hipblasNrm2Ex_64	6.2.0		7.0.0		
cublasSasum					hipblasSasum	1.8.2				
cublasSasum_64	12.0				hipblasSasum_64	6.1.0				
cublasSasum_v2					hipblasSasum	1.8.2				
cublasSasum_v2_64	12.0				hipblasSasum_64	6.1.0				
cublasSaxpy					hipblasSaxpy	1.8.2				
cublasSaxpy_64	12.0				hipblasSaxpy_64	6.1.0				
cublasSaxpy_v2					hipblasSaxpy	1.8.2				
cublasSaxpy_v2_64	12.0				hipblasSaxpy_64	6.1.0				
cublasScasum					hipblasScasum	3.0.0		7.0.0		
cublasScasum_64	12.0				hipblasScasum_64	6.1.0		7.0.0		
cublasScasum_v2					hipblasScasum	3.0.0		7.0.0		
cublasScasum_v2_64	12.0				hipblasScasum_64	6.1.0		7.0.0		
cublasScnrm2					hipblasScnrm2	3.0.0		7.0.0		
cublasScnrm2_64	12.0				hipblasScnrm2_64	6.1.0		7.0.0		
cublasScnrm2_v2					hipblasScnrm2	3.0.0		7.0.0		
cublasScnrm2_v2_64	12.0				hipblasScnrm2_64	6.1.0		7.0.0		
cublasScopy					hipblasScopy	1.8.2				
cublasScopy_64	12.0				hipblasScopy_64	6.1.0				
cublasScopy_v2					hipblasScopy	1.8.2				
cublasScopy_v2_64	12.0				hipblasScopy_64	6.1.0				
cublasSdot					hipblasSdot	3.0.0				
cublasSdot_64	12.0				hipblasSdot_64	6.1.0				
cublasSdot_v2					hipblasSdot	3.0.0				
cublasSdot_v2_64	12.0				hipblasSdot_64	6.1.0				
cublasSnrm2					hipblasSnrm2	1.8.2				
cublasSnrm2_64	12.0				hipblasSnrm2_64	6.1.0				
cublasSnrm2_v2					hipblasSnrm2	1.8.2				
cublasSnrm2_v2_64	12.0				hipblasSnrm2_64	6.1.0				
cublasSrot					hipblasSrot	3.0.0				

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Table 7.16 – continued from previous page

CUDA	A	D	C	R	HIP	A	D	C	R	E
cublasSrot_64	12.0				hipblasSrot_64	6.1.0				
cublasSrot_v2					hipblasSrot	3.0.0				
cublasSrot_v2_64	12.0				hipblasSrot_64	6.1.0				
cublasSrotg					hipblasSrotg	3.0.0				
cublasSrotg_v2					hipblasSrotg	3.0.0				
cublasSrotm					hipblasSrotm	3.0.0				
cublasSrotm_64	12.0				hipblasSrotm_64	6.1.0				
cublasSrotm_v2					hipblasSrotm	3.0.0				
cublasSrotm_v2_64	12.0				hipblasSrotm_64	6.1.0				
cublasSrotmg					hipblasSrotmg	3.0.0				
cublasSrotmg_v2					hipblasSrotmg	3.0.0				
cublasSscal					hipblasSscal	1.8.2				
cublasSscal_64	12.0				hipblasSscal_64	6.1.0				
cublasSscal_v2					hipblasSscal	1.8.2				
cublasSscal_v2_64	12.0				hipblasSscal_64	6.1.0				
cublasSswap					hipblasSswap	3.0.0				
cublasSswap_64	12.0				hipblasSswap_64	6.1.0				
cublasSswap_v2					hipblasSswap	3.0.0				
cublasSswap_v2_64	12.0				hipblasSswap_64	6.1.0				
cublasZaxpy					hipblasZaxpy	3.0.0		7.0.0		
cublasZaxpy_64	12.0				hipblasZaxpy_64	6.1.0		7.0.0		
cublasZaxpy_v2					hipblasZaxpy	3.0.0		7.0.0		
cublasZaxpy_v2_64	12.0				hipblasZaxpy_64	6.1.0		7.0.0		
cublasZcopy					hipblasZcopy	3.0.0		7.0.0		
cublasZcopy_64	12.0				hipblasZcopy_64	6.1.0		7.0.0		
cublasZcopy_v2					hipblasZcopy	3.0.0		7.0.0		
cublasZcopy_v2_64	12.0				hipblasZcopy_64	6.1.0		7.0.0		
cublasZdotc					hipblasZdotc	3.0.0		7.0.0		
cublasZdotc_64	12.0				hipblasZdotc_64	6.1.0		7.0.0		
cublasZdotc_v2					hipblasZdotc	3.0.0		7.0.0		
cublasZdotc_v2_64	12.0				hipblasZdotc_64	6.1.0		7.0.0		
cublasZdotu					hipblasZdotu	3.0.0		7.0.0		
cublasZdotu_64	12.0				hipblasZdotu_64	6.1.0		7.0.0		
cublasZdotu_v2					hipblasZdotu	3.0.0		7.0.0		
cublasZdotu_v2_64	12.0				hipblasZdotu_64	6.1.0		7.0.0		
cublasZdrot					hipblasZdrot	3.0.0		7.0.0		
cublasZdrot_64	12.0				hipblasZdrot_64	6.1.0		7.0.0		
cublasZdrot_v2					hipblasZdrot	3.0.0		7.0.0		
cublasZdrot_v2_64	12.0				hipblasZdrot_64	6.1.0		7.0.0		
cublasZdscal					hipblasZdscal	3.0.0		7.0.0		
cublasZdscal_64	12.0				hipblasZdscal_64	6.1.0		7.0.0		
cublasZdscal_v2					hipblasZdscal	3.0.0		7.0.0		
cublasZdscal_v2_64	12.0				hipblasZdscal_64	6.1.0		7.0.0		
cublasZrot					hipblasZrot	3.0.0		7.0.0		
cublasZrot_64	12.0				hipblasZrot_64	6.1.0		7.0.0		
cublasZrot_v2					hipblasZrot	3.0.0		7.0.0		
cublasZrot_v2_64	12.0				hipblasZrot_64	6.1.0		7.0.0		
cublasZrotg					hipblasZrotg	3.0.0		7.0.0		
cublasZrotg_v2					hipblasZrotg	3.0.0		7.0.0		
cublasZscal					hipblasZscal	1.6.0		7.0.0		

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Table 7.16 – continued from previous page

CUDA	A	D	C	R	HIP	A	D	C	R	E
cublasZscal_64	12.0				hipblasZscal_64	6.1.0		7.0.0		
cublasZscal_v2					hipblasZscal	1.6.0		7.0.0		
cublasZscal_v2_64	12.0				hipblasZscal_64	6.1.0		7.0.0		
cublasZswap					hipblasZswap	3.0.0		7.0.0		
cublasZswap_64	12.0				hipblasZswap_64	6.1.0		7.0.0		
cublasZswap_v2					hipblasZswap	3.0.0		7.0.0		
cublasZswap_v2_64	12.0				hipblasZswap_64	6.1.0		7.0.0		

7.6.6 6. CUBLAS Level-2 Function Reference

CUDA	A	D	C	R	HIP	A	D	C	R	E
cublasCgbmv					hipblasCgbmv	3.5.0		7.0.0		
cublasCgbmv_64	12.0				hipblasCgbmv_64	6.2.0		7.0.0		
cublasCgbmv_v2					hipblasCgbmv	3.5.0		7.0.0		
cublasCgbmv_v2_64	12.0				hipblasCgbmv_64	6.2.0		7.0.0		
cublasCgemv					hipblasCgemv	3.0.0		7.0.0		
cublasCgemv_64	12.0				hipblasCgemv_64	6.2.0		7.0.0		
cublasCgemv_v2					hipblasCgemv	3.0.0		7.0.0		
cublasCgemv_v2_64	12.0				hipblasCgemv_64	6.2.0		7.0.0		
cublasCgerc					hipblasCgerc	3.5.0		7.0.0		
cublasCgerc_64	12.0				hipblasCgerc_64	6.2.0		7.0.0		
cublasCgerc_v2					hipblasCgerc	3.5.0		7.0.0		
cublasCgerc_v2_64	12.0				hipblasCgerc_64	6.2.0		7.0.0		
cublasCgeru					hipblasCgeru	3.5.0		7.0.0		
cublasCgeru_64	12.0				hipblasCgeru_64	6.2.0		7.0.0		
cublasCgeru_v2					hipblasCgeru	3.5.0		7.0.0		
cublasCgeru_v2_64	12.0				hipblasCgeru_64	6.2.0		7.0.0		
cublasChbmv					hipblasChbmv	3.5.0		7.0.0		
cublasChbmv_64	12.0				hipblasChbmv_64	6.2.0		7.0.0		
cublasChbmv_v2					hipblasChbmv	3.5.0		7.0.0		
cublasChbmv_v2_64	12.0				hipblasChbmv_64	6.2.0		7.0.0		
cublasChemv					hipblasChemv	3.5.0		7.0.0		
cublasChemv_64	12.0				hipblasChemv_64	6.2.0		7.0.0		
cublasChemv_v2					hipblasChemv	3.5.0		7.0.0		
cublasChemv_v2_64	12.0				hipblasChemv_64	6.2.0		7.0.0		
cublasCher					hipblasCher	3.5.0		7.0.0		
cublasCher2					hipblasCher2	3.5.0		7.0.0		
cublasCher2_64	12.0				hipblasCher2_64	6.2.0		7.0.0		
cublasCher2_v2					hipblasCher2	3.5.0		7.0.0		
cublasCher2_v2_64	12.0				hipblasCher2_64	6.2.0		7.0.0		
cublasCher_64	12.0				hipblasCher_64	6.2.0		7.0.0		
cublasCher_v2					hipblasCher	3.5.0		7.0.0		
cublasCher_v2_64	12.0				hipblasCher_64	6.2.0		7.0.0		
cublasChpmv					hipblasChpmv	3.5.0		7.0.0		
cublasChpmv_64	12.0				hipblasChpmv_64	6.2.0		7.0.0		
cublasChpmv_v2					hipblasChpmv	3.5.0		7.0.0		
cublasChpmv_v2_64	12.0				hipblasChpmv_64	6.2.0		7.0.0		
cublasChpr					hipblasChpr	3.5.0		7.0.0		
cublasChpr2					hipblasChpr2	3.5.0		7.0.0		

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Table 7.17 – continued from previous page

CUDA	A	D	C	R	HIP	A	D	C	R	E
cublasChpr2_64	12.0				hipblasChpr2_64	6.2.0		7.0.0		
cublasChpr2_v2					hipblasChpr2	3.5.0		7.0.0		
cublasChpr2_v2_64	12.0				hipblasChpr2_64	6.2.0		7.0.0		
cublasChpr_64	12.0				hipblasChpr_64	6.2.0		7.0.0		
cublasChpr_v2					hipblasChpr	3.5.0		7.0.0		
cublasChpr_v2_64	12.0				hipblasChpr_64	6.2.0		7.0.0		
cublasCsymv					hipblasCsymv	3.5.0		7.0.0		
cublasCsymv_64	12.0				hipblasCsymv_64	6.2.0		7.0.0		
cublasCsymv_v2					hipblasCsymv	3.5.0		7.0.0		
cublasCsymv_v2_64	12.0				hipblasCsymv_64	6.2.0		7.0.0		
cublasCsyr					hipblasCsyr	3.5.0		7.0.0		
cublasCsyr2					hipblasCsyr2	3.5.0		7.0.0		
cublasCsyr2_64	12.0				hipblasCsyr2_64	6.2.0		7.0.0		
cublasCsyr2_v2					hipblasCsyr2	3.5.0		7.0.0		
cublasCsyr2_v2_64	12.0				hipblasCsyr2_64	6.2.0		7.0.0		
cublasCsyr_64	12.0				hipblasCsyr_64	6.2.0		7.0.0		
cublasCsyr_v2					hipblasCsyr	3.5.0		7.0.0		
cublasCsyr_v2_64	12.0				hipblasCsyr_64	6.2.0		7.0.0		
cublasCtbmv					hipblasCtbmv	3.5.0		7.0.0		
cublasCtbmv_64	12.0				hipblasCtbmv_64	6.2.0		7.0.0		
cublasCtbmv_v2					hipblasCtbmv	3.5.0		7.0.0		
cublasCtbmv_v2_64	12.0				hipblasCtbmv_64	6.2.0		7.0.0		
cublasCtbsv					hipblasCtbsv	3.6.0		7.0.0		
cublasCtbsv_64	12.0				hipblasCtbsv_64	6.2.0		7.0.0		
cublasCtbsv_v2					hipblasCtbsv	3.6.0		7.0.0		
cublasCtbsv_v2_64	12.0				hipblasCtbsv_64	6.2.0		7.0.0		
cublasCtpmv					hipblasCtpmv	3.5.0		7.0.0		
cublasCtpmv_64	12.0				hipblasCtpmv_64	6.2.0		7.0.0		
cublasCtpmv_v2					hipblasCtpmv	3.5.0		7.0.0		
cublasCtpmv_v2_64	12.0				hipblasCtpmv_64	6.2.0		7.0.0		
cublasCtpsv					hipblasCtpsv	3.5.0		7.0.0		
cublasCtpsv_64	12.0				hipblasCtpsv_64	6.2.0		7.0.0		
cublasCtpsv_v2					hipblasCtpsv	3.5.0		7.0.0		
cublasCtpsv_v2_64	12.0				hipblasCtpsv_64	6.2.0		7.0.0		
cublasCtrmv					hipblasCtrmv	3.5.0		7.0.0		
cublasCtrmv_64	12.0				hipblasCtrmv_64	6.2.0		7.0.0		
cublasCtrmv_v2					hipblasCtrmv	3.5.0		7.0.0		
cublasCtrmv_v2_64	12.0				hipblasCtrmv_64	6.2.0		7.0.0		
cublasCtrsv					hipblasCtrsv	3.5.0		7.0.0		
cublasCtrsv_64	12.0				hipblasCtrsv_64	6.2.0		7.0.0		
cublasCtrsv_v2					hipblasCtrsv	3.5.0		7.0.0		
cublasCtrsv_v2_64	12.0				hipblasCtrsv_64	6.2.0		7.0.0		
cublasDgbmv					hipblasDgbmv	3.5.0				
cublasDgbmv_64	12.0				hipblasDgbmv_64	6.2.0				
cublasDgbmv_v2					hipblasDgbmv	3.5.0				
cublasDgbmv_v2_64	12.0				hipblasDgbmv_64	6.2.0				
cublasDgemv					hipblasDgemv	1.8.2				
cublasDgemv_64	12.0				hipblasDgemv_64	6.2.0				
cublasDgemv_v2					hipblasDgemv	1.8.2				
cublasDgemv_v2_64	12.0				hipblasDgemv_64	6.2.0				

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Table 7.17 – continued from previous page

CUDA	A	D	C	R	HIP	A	D	C	R	E
cublasDger					hipblasDger	1.8.2				
cublasDger_64	12.0				hipblasDger_64	6.2.0				
cublasDger_v2					hipblasDger	1.8.2				
cublasDger_v2_64	12.0				hipblasDger_64	6.2.0				
cublasDsbmv					hipblasDsbmv	3.5.0				
cublasDsbmv_64	12.0				hipblasDsbmv_64	6.2.0				
cublasDsbmv_v2					hipblasDsbmv	3.5.0				
cublasDsbmv_v2_64	12.0				hipblasDsbmv_64	6.2.0				
cublasDspmv					hipblasDspmv	3.5.0				
cublasDspmv_64	12.0				hipblasDspmv_64	6.2.0				
cublasDspmv_v2					hipblasDspmv	3.5.0				
cublasDspmv_v2_64	12.0				hipblasDspmv_64	6.2.0				
cublasDspr					hipblasDspr	3.5.0				
cublasDspr2					hipblasDspr2	3.5.0				
cublasDspr2_64	12.0				hipblasDspr2_64	6.2.0				
cublasDspr2_v2					hipblasDspr2	3.5.0				
cublasDspr2_v2_64	12.0				hipblasDspr2_64	6.2.0				
cublasDspr_64	12.0				hipblasDspr_64	6.2.0				
cublasDspr_v2					hipblasDspr	3.5.0				
cublasDspr_v2_64	12.0				hipblasDspr_64	6.2.0				
cublasDsymv					hipblasDsymv	3.5.0				
cublasDsymv_64	12.0				hipblasDsymv_64	6.2.0				
cublasDsymv_v2					hipblasDsymv	3.5.0				
cublasDsymv_v2_64	12.0				hipblasDsymv_64	6.2.0				
cublasDsyr					hipblasDsyr	3.0.0				
cublasDsyr2					hipblasDsyr2	3.5.0				
cublasDsyr2_64	12.0				hipblasDsyr2_64	6.2.0				
cublasDsyr2_v2					hipblasDsyr2	3.5.0				
cublasDsyr2_v2_64	12.0				hipblasDsyr2_64	6.2.0				
cublasDsyr_64	12.0				hipblasDsyr_64	6.2.0				
cublasDsyr_v2					hipblasDsyr	3.0.0				
cublasDsyr_v2_64	12.0				hipblasDsyr_64	6.2.0				
cublasDtbmv					hipblasDtbmv	3.5.0				
cublasDtbmv_64	12.0				hipblasDtbmv_64	6.2.0				
cublasDtbmv_v2					hipblasDtbmv	3.5.0				
cublasDtbmv_v2_64	12.0				hipblasDtbmv_64	6.2.0				
cublasDtbsv					hipblasDtbsv	3.6.0				
cublasDtbsv_64	12.0				hipblasDtbsv_64	6.2.0				
cublasDtbsv_v2					hipblasDtbsv	3.6.0				
cublasDtbsv_v2_64	12.0				hipblasDtbsv_64	6.2.0				
cublasDtpmv					hipblasDtpmv	3.5.0				
cublasDtpmv_64	12.0				hipblasDtpmv_64	6.2.0				
cublasDtpmv_v2					hipblasDtpmv	3.5.0				
cublasDtpmv_v2_64	12.0				hipblasDtpmv_64	6.2.0				
cublasDtpsv					hipblasDtpsv	3.5.0				
cublasDtpsv_64	12.0				hipblasDtpsv_64	6.2.0				
cublasDtpsv_v2					hipblasDtpsv	3.5.0				
cublasDtpsv_v2_64	12.0				hipblasDtpsv_64	6.2.0				
cublasDtrmv					hipblasDtrmv	3.5.0				
cublasDtrmv_64	12.0				hipblasDtrmv_64	6.2.0				

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Table 7.17 – continued from previous page

CUDA	A	D	C	R	HIP	A	D	C	R	E
cublasDtrmv_v2					hipblasDtrmv	3.5.0				
cublasDtrmv_v2_64	12.0				hipblasDtrmv_64	6.2.0				
cublasDtrsv					hipblasDtrsv	3.0.0				
cublasDtrsv_64	12.0				hipblasDtrsv_64	6.2.0				
cublasDtrsv_v2					hipblasDtrsv	3.0.0				
cublasDtrsv_v2_64	12.0				hipblasDtrsv_64	6.2.0				
cublasSgbmv					hipblasSgbmv	3.5.0				
cublasSgbmv_64	12.0				hipblasSgbmv_64	6.2.0				
cublasSgbmv_v2					hipblasSgbmv	3.5.0				
cublasSgbmv_v2_64	12.0				hipblasSgbmv_64	6.2.0				
cublasSgemv					hipblasSgemv	1.8.2				
cublasSgemv_64	12.0				hipblasSgemv_64	6.2.0				
cublasSgemv_v2					hipblasSgemv	1.8.2				
cublasSgemv_v2_64	12.0				hipblasSgemv_64	6.2.0				
cublasSger					hipblasSger	1.8.2				
cublasSger_64	12.0				hipblasSger_64	6.2.0				
cublasSger_v2					hipblasSger	1.8.2				
cublasSger_v2_64	12.0				hipblasSger_64	6.2.0				
cublasSsbmv					hipblasSsbmv	3.5.0				
cublasSsbmv_64	12.0				hipblasSsbmv_64	6.2.0				
cublasSsbmv_v2					hipblasSsbmv	3.5.0				
cublasSsbmv_v2_64	12.0				hipblasSsbmv_64	6.2.0				
cublasSspmv					hipblasSspmv	3.5.0				
cublasSspmv_64	12.0				hipblasSspmv_64	6.2.0				
cublasSspmv_v2					hipblasSspmv	3.5.0				
cublasSspmv_v2_64	12.0				hipblasSspmv_64	6.2.0				
cublasSspr					hipblasSspr	3.5.0				
cublasSspr2					hipblasSspr2	3.5.0				
cublasSspr2_64	12.0				hipblasSspr2_64	6.2.0				
cublasSspr2_v2					hipblasSspr2	3.5.0				
cublasSspr2_v2_64	12.0				hipblasSspr2_64	6.2.0				
cublasSspr_64	12.0				hipblasSspr_64	6.2.0				
cublasSspr_v2					hipblasSspr	3.5.0				
cublasSspr_v2_64	12.0				hipblasSspr_64	6.2.0				
cublasSsymv					hipblasSsymv	3.5.0				
cublasSsymv_64	12.0				hipblasSsymv_64	6.2.0				
cublasSsymv_v2					hipblasSsymv	3.5.0				
cublasSsymv_v2_64	12.0				hipblasSsymv_64	6.2.0				
cublasSsyr					hipblasSsyr	3.0.0				
cublasSsyr2					hipblasSsyr2	3.5.0				
cublasSsyr2_64	12.0				hipblasSsyr2_64	6.2.0				
cublasSsyr2_v2					hipblasSsyr2	3.5.0				
cublasSsyr2_v2_64	12.0				hipblasSsyr2_64	6.2.0				
cublasSsyr_64	12.0				hipblasSsyr_64	6.2.0				
cublasSsyr_v2					hipblasSsyr	3.0.0				
cublasSsyr_v2_64	12.0				hipblasSsyr_64	6.2.0				
cublasStbmv					hipblasStbmv	3.5.0				
cublasStbmv_64	12.0				hipblasStbmv_64	6.2.0				
cublasStbmv_v2					hipblasStbmv	3.5.0				
cublasStbmv_v2_64	12.0				hipblasStbmv_64	6.2.0				

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Table 7.17 – continued from previous page

CUDA	A	D	C	R	HIP	A	D	C	R	E
cublasStbsv					hipblasStbsv	3.6.0				
cublasStbsv_64	12.0				hipblasStbsv_64	6.2.0				
cublasStbsv_v2					hipblasStbsv	3.6.0				
cublasStbsv_v2_64	12.0				hipblasStbsv_64	6.2.0				
cublasStpmv					hipblasStpmv	3.5.0				
cublasStpmv_64	12.0				hipblasStpmv_64	6.2.0				
cublasStpmv_v2					hipblasStpmv	3.5.0				
cublasStpmv_v2_64	12.0				hipblasStpmv_64	6.2.0				
cublasStpsv					hipblasStpsv	3.5.0				
cublasStpsv_64	12.0				hipblasStpsv_64	6.2.0				
cublasStpsv_v2					hipblasStpsv	3.5.0				
cublasStpsv_v2_64	12.0				hipblasStpsv_64	6.2.0				
cublasStrmv					hipblasStrmv	3.5.0				
cublasStrmv_64	12.0				hipblasStrmv_64	6.2.0				
cublasStrmv_v2					hipblasStrmv	3.5.0				
cublasStrmv_v2_64	12.0				hipblasStrmv_64	6.2.0				
cublasStrsv					hipblasStrsv	3.0.0				
cublasStrsv_64	12.0				hipblasStrsv_64	6.2.0				
cublasStrsv_v2					hipblasStrsv	3.0.0				
cublasStrsv_v2_64	12.0				hipblasStrsv_64	6.2.0				
cublasZgbmv					hipblasZgbmv	3.5.0		7.0.0		
cublasZgbmv_64	12.0				hipblasZgbmv_64	6.2.0		7.0.0		
cublasZgbmv_v2					hipblasZgbmv	3.5.0		7.0.0		
cublasZgbmv_v2_64	12.0				hipblasZgbmv_64	6.2.0		7.0.0		
cublasZgemv					hipblasZgemv	3.0.0		7.0.0		
cublasZgemv_64	12.0				hipblasZgemv_64	6.2.0		7.0.0		
cublasZgemv_v2					hipblasZgemv	3.0.0		7.0.0		
cublasZgemv_v2_64	12.0				hipblasZgemv_64	6.2.0		7.0.0		
cublasZgerc					hipblasZgerc	3.5.0		7.0.0		
cublasZgerc_64	12.0				hipblasZgerc_64	6.2.0		7.0.0		
cublasZgerc_v2					hipblasZgerc	3.5.0		7.0.0		
cublasZgerc_v2_64	12.0				hipblasZgerc_64	6.2.0		7.0.0		
cublasZgeru					hipblasZgeru	3.5.0		7.0.0		
cublasZgeru_64	12.0				hipblasZgeru_64	6.2.0		7.0.0		
cublasZgeru_v2					hipblasZgeru	3.5.0		7.0.0		
cublasZgeru_v2_64	12.0				hipblasZgeru_64	6.2.0		7.0.0		
cublasZhbmv					hipblasZhbmv	3.5.0		7.0.0		
cublasZhbmv_64	12.0				hipblasZhbmv_64	6.2.0		7.0.0		
cublasZhbmv_v2					hipblasZhbmv	3.5.0		7.0.0		
cublasZhbmv_v2_64	12.0				hipblasZhbmv_64	6.2.0		7.0.0		
cublasZhemv					hipblasZhemv	3.5.0		7.0.0		
cublasZhemv_64	12.0				hipblasZhemv_64	6.2.0		7.0.0		
cublasZhemv_v2					hipblasZhemv	3.5.0		7.0.0		
cublasZhemv_v2_64	12.0				hipblasZhemv_64	6.2.0		7.0.0		
cublasZher					hipblasZher	3.5.0		7.0.0		
cublasZher2					hipblasZher2	3.5.0		7.0.0		
cublasZher2_64	12.0				hipblasZher2_64	6.2.0		7.0.0		
cublasZher2_v2					hipblasZher2	3.5.0		7.0.0		
cublasZher2_v2_64	12.0				hipblasZher2_64	6.2.0		7.0.0		
cublasZher_64	12.0				hipblasZher_64	6.2.0		7.0.0		

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Table 7.17 – continued from previous page

CUDA	A	D	C	R	HIP	A	D	C	R	E
cublasZher_v2					hipblasZher	3.5.0		7.0.0		
cublasZher_v2_64	12.0				hipblasZher_64	6.2.0		7.0.0		
cublasZhpmv					hipblasZhpmv	3.5.0		7.0.0		
cublasZhpmv_64	12.0				hipblasZhpmv_64	6.2.0		7.0.0		
cublasZhpmv_v2					hipblasZhpmv	3.5.0		7.0.0		
cublasZhpmv_v2_64	12.0				hipblasZhpmv_64	6.2.0		7.0.0		
cublasZhpr					hipblasZhpr	3.5.0		7.0.0		
cublasZhpr2					hipblasZhpr2	3.5.0		7.0.0		
cublasZhpr2_64	12.0				hipblasZhpr2_64	6.2.0		7.0.0		
cublasZhpr2_v2					hipblasZhpr2	3.5.0		7.0.0		
cublasZhpr2_v2_64	12.0				hipblasZhpr2_64	6.2.0		7.0.0		
cublasZhpr_64	12.0				hipblasZhpr_64	6.2.0		7.0.0		
cublasZhpr_v2					hipblasZhpr	3.5.0		7.0.0		
cublasZhpr_v2_64	12.0				hipblasZhpr_64	6.2.0		7.0.0		
cublasZsymv					hipblasZsymv	3.5.0		7.0.0		
cublasZsymv_64	12.0				hipblasZsymv_64	6.2.0		7.0.0		
cublasZsymv_v2					hipblasZsymv	3.5.0		7.0.0		
cublasZsymv_v2_64	12.0				hipblasZsymv_64	6.2.0		7.0.0		
cublasZsyr					hipblasZsyr	3.5.0		7.0.0		
cublasZsyr2					hipblasZsyr2	3.5.0		7.0.0		
cublasZsyr2_64	12.0				hipblasZsyr2_64	6.2.0		7.0.0		
cublasZsyr2_v2					hipblasZsyr2	3.5.0		7.0.0		
cublasZsyr2_v2_64	12.0				hipblasZsyr2_64	6.2.0		7.0.0		
cublasZsyr_64	12.0				hipblasZsyr_64	6.2.0		7.0.0		
cublasZsyr_v2					hipblasZsyr	3.5.0		7.0.0		
cublasZsyr_v2_64	12.0				hipblasZsyr_64	6.2.0		7.0.0		
cublasZtbmv					hipblasZtbmv	3.5.0		7.0.0		
cublasZtbmv_64	12.0				hipblasZtbmv_64	6.2.0		7.0.0		
cublasZtbmv_v2					hipblasZtbmv	3.5.0		7.0.0		
cublasZtbmv_v2_64	12.0				hipblasZtbmv_64	6.2.0		7.0.0		
cublasZtbsv					hipblasZtbsv	3.6.0		7.0.0		
cublasZtbsv_64	12.0				hipblasZtbsv_64	6.2.0		7.0.0		
cublasZtbsv_v2					hipblasZtbsv	3.6.0		7.0.0		
cublasZtbsv_v2_64	12.0				hipblasZtbsv_64	6.2.0		7.0.0		
cublasZtpmv					hipblasZtpmv	3.5.0		7.0.0		
cublasZtpmv_64	12.0				hipblasZtpmv_64	6.2.0		7.0.0		
cublasZtpmv_v2					hipblasZtpmv	3.5.0		7.0.0		
cublasZtpmv_v2_64	12.0				hipblasZtpmv_64	6.2.0		7.0.0		
cublasZtpsv					hipblasZtpsv	3.5.0		7.0.0		
cublasZtpsv_64	12.0				hipblasZtpsv_64	6.2.0		7.0.0		
cublasZtpsv_v2					hipblasZtpsv	3.5.0		7.0.0		
cublasZtpsv_v2_64	12.0				hipblasZtpsv_64	6.2.0		7.0.0		
cublasZtrmv					hipblasZtrmv	3.5.0		7.0.0		
cublasZtrmv_64	12.0				hipblasZtrmv_64	6.2.0		7.0.0		
cublasZtrmv_v2					hipblasZtrmv	3.5.0		7.0.0		
cublasZtrmv_v2_64	12.0				hipblasZtrmv_64	6.2.0		7.0.0		
cublasZtrsv					hipblasZtrsv	3.5.0		7.0.0		
cublasZtrsv_64	12.0				hipblasZtrsv_64	6.2.0		7.0.0		
cublasZtrsv_v2					hipblasZtrsv	3.5.0		7.0.0		
cublasZtrsv_v2_64	12.0				hipblasZtrsv_64	6.2.0		7.0.0		

7.6.7 7. CUBLAS Level-3 Function Reference

CUDA	A	D	C	R	HIP	A	D	C	R	E
cublasCgemm					hipblasCgemm	1.6.0		7.0.0		
cublasCgemm3m	8.0									
cublasCgemm3mBatched	8.0									
cublasCgemm3mBatched_64	12.0									
cublasCgemm3mEx	8.0									
cublasCgemm3mEx_64	12.0									
cublasCgemm3mStridedBatched	8.0									
cublasCgemm3mStridedBatched_64	12.0									
cublasCgemm3m_64	12.0									
cublasCgemmBatched					hipblasCgemmBatched	1.6.0		7.0.0		
cublasCgemmBatched_64	12.0				hipblasCgemmBatched_64	6.3.0		7.0.0		
cublasCgemmStridedBatched	8.0				hipblasCgemmStridedBatched	3.0.0		7.0.0		
cublasCgemmStridedBatched_64	12.0				hipblasCgemmStridedBatched_64	6.3.0		7.0.0		
cublasCgemm_64	12.0				hipblasCgemm_64	6.3.0		7.0.0		
cublasCgemm_v2					hipblasCgemm	1.6.0		7.0.0		
cublasCgemm_v2_64	12.0				hipblasCgemm_64	6.3.0		7.0.0		
cublasCgemvBatched	11.6				hipblasCgemvBatched	3.0.0		7.0.0		
cublasCgemvBatched_64	12.0				hipblasCgemvBatched_64	6.2.0		7.0.0		
cublasCgemvStridedBatched	11.6				hipblasCgemvStridedBatched	3.0.0		7.0.0		
cublasCgemvStridedBatched_64	12.0				hipblasCgemvStridedBatched_64	6.2.0		7.0.0		
cublasChemm					hipblasChemm	3.6.0		7.0.0		
cublasChemm_64	12.0				hipblasChemm_64	6.3.0		7.0.0		
cublasChemm_v2					hipblasChemm	3.6.0		7.0.0		
cublasChemm_v2_64	12.0				hipblasChemm_64	6.3.0		7.0.0		
cublasCher2k					hipblasCher2k	3.5.0		7.0.0		
cublasCher2k_64	12.0				hipblasCher2k_64	6.3.0		7.0.0		
cublasCher2k_v2					hipblasCher2k	3.5.0		7.0.0		
cublasCher2k_v2_64	12.0				hipblasCher2k_64	6.3.0		7.0.0		
cublasCherk					hipblasCherk	3.5.0		7.0.0		
cublasCherk_64	12.0				hipblasCherk_64	6.3.0		7.0.0		
cublasCherk_v2					hipblasCherk	3.5.0		7.0.0		
cublasCherk_v2_64	12.0				hipblasCherk_64	6.3.0		7.0.0		
cublasCherkx					hipblasCherkx	3.5.0		7.0.0		
cublasCherkx_64	12.0				hipblasCherkx_64	6.3.0		7.0.0		
cublasCsymm					hipblasCsymm	3.6.0		7.0.0		
cublasCsymm_64	12.0				hipblasCsymm_64	6.3.0		7.0.0		
cublasCsymm_v2					hipblasCsymm	3.6.0		7.0.0		
cublasCsymm_v2_64	12.0				hipblasCsymm_64	6.3.0		7.0.0		
cublasCsyr2k					hipblasCsyr2k	3.5.0		7.0.0		
cublasCsyr2k_64	12.0				hipblasCsyr2k_64	6.3.0		7.0.0		
cublasCsyr2k_v2					hipblasCsyr2k	3.5.0		7.0.0		
cublasCsyr2k_v2_64	12.0				hipblasCsyr2k_64	6.3.0		7.0.0		
cublasCsyrk					hipblasCsyrk	3.5.0		7.0.0		
cublasCsyrk_64	12.0				hipblasCsyrk_64	6.3.0		7.0.0		
cublasCsyrk_v2					hipblasCsyrk	3.5.0		7.0.0		
cublasCsyrk_v2_64	12.0				hipblasCsyrk_64	6.3.0		7.0.0		
cublasCsyrkx					hipblasCsyrkx	3.5.0		7.0.0		
cublasCsyrkx_64	12.0				hipblasCsyrkx_64	6.3.0		7.0.0		
cublasCtrmm					hipblasCtrmm	3.5.0		7.0.0		

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Table 7.18 – continued from previous page

CUDA	A	D	C	R	HIP	A	D	C	R	E
cublasCtrmm_64	12.0				hipblasCtrmm_64	6.3.0		7.0.0		
cublasCtrmm_v2					hipblasCtrmm	3.5.0		7.0.0		
cublasCtrmm_v2_64	12.0				hipblasCtrmm_64	6.3.0		7.0.0		
cublasCtrsm					hipblasCtrsm	3.5.0		7.0.0		
cublasCtrsm_64	12.0				hipblasCtrsm_64	6.3.0		7.0.0		
cublasCtrsm_v2					hipblasCtrsm	3.5.0		7.0.0		
cublasCtrsm_v2_64	12.0				hipblasCtrsm_64	6.3.0		7.0.0		
cublasDgemm					hipblasDgemm	1.8.2				
cublasDgemmBatched					hipblasDgemmBatched	1.8.2				
cublasDgemmBatched_64	12.0				hipblasDgemmBatched_64	6.3.0				
cublasDgemmGroupedBatched	12.4									
cublasDgemmGroupedBatched_64	12.4									
cublasDgemmStridedBatched	8.0				hipblasDgemmStridedBatched	1.8.2				
cublasDgemmStridedBatched_64	12.0				hipblasDgemmStridedBatched_64	6.3.0				
cublasDgemm_64	12.0				hipblasDgemm_64	6.3.0				
cublasDgemm_v2					hipblasDgemm	1.8.2				
cublasDgemm_v2_64	12.0				hipblasDgemm_64	6.3.0				
cublasDgemvBatched	11.6				hipblasDgemvBatched	3.0.0				
cublasDgemvBatched_64	12.0				hipblasDgemvBatched_64	6.2.0				
cublasDgemvStridedBatched	11.6				hipblasDgemvStridedBatched	3.0.0				
cublasDgemvStridedBatched_64	12.0				hipblasDgemvStridedBatched_64	6.2.0				
cublasDsymm					hipblasDsymm	3.6.0				
cublasDsymm_64	12.0				hipblasDsymm_64	6.3.0				
cublasDsymm_v2					hipblasDsymm	3.6.0				
cublasDsymm_v2_64	12.0				hipblasDsymm_64	6.3.0				
cublasDsyr2k					hipblasDsyr2k	3.5.0				
cublasDsyr2k_64	12.0				hipblasDsyr2k_64	6.3.0				
cublasDsyr2k_v2					hipblasDsyr2k	3.5.0				
cublasDsyr2k_v2_64	12.0				hipblasDsyr2k_64	6.3.0				
cublasDsyrk					hipblasDsyrk	3.5.0				
cublasDsyrk_64	12.0				hipblasDsyrk_64	6.3.0				
cublasDsyrk_v2					hipblasDsyrk	3.5.0				
cublasDsyrk_v2_64	12.0				hipblasDsyrk_64	6.3.0				
cublasDsyrkx					hipblasDsyrkx	3.5.0				
cublasDsyrkx_64	12.0				hipblasDsyrkx_64	6.3.0				
cublasDtrmm					hipblasDtrmm	3.2.0		6.0.0		
cublasDtrmm_64	12.0				hipblasDtrmm_64	6.3.0				
cublasDtrmm_v2					hipblasDtrmm	3.2.0		6.0.0		
cublasDtrmm_v2_64	12.0				hipblasDtrmm_64	6.3.0				
cublasDtrsm					hipblasDtrsm	1.8.2				
cublasDtrsm_64	12.0				hipblasDtrsm_64	6.3.0				
cublasDtrsm_v2					hipblasDtrsm	1.8.2				
cublasDtrsm_v2_64	12.0				hipblasDtrsm_64	6.3.0				
cublasGemmGroupedBatchedEx	12.5									
cublasGemmGroupedBatchedEx_64	12.5									
cublasHSHgemvBatched	11.6									
cublasHSHgemvBatched_64	12.0									
cublasHSHgemvStridedBatched	11.6									
cublasHSHgemvStridedBatched_64	12.0									
cublasHSSgemvBatched	11.6									

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Table 7.18 – continued from previous page

CUDA	A	D	C	R	HIP	A	D	C	R	E
cublasHSSgemvBatched_64	12.0									
cublasHSSgemvStridedBatched	11.6									
cublasHSSgemvStridedBatched_64	12.0									
cublasHgemm	7.5				hipblasHgemm	1.8.2				
cublasHgemmBatched	9.0				hipblasHgemmBatched	3.0.0				
cublasHgemmBatched_64	12.0				hipblasHgemmBatched_64	6.3.0				
cublasHgemmStridedBatched	8.0				hipblasHgemmStridedBatched	3.0.0				
cublasHgemmStridedBatched_64	12.0				hipblasHgemmStridedBatched_64	6.3.0				
cublasHgemm_64	12.0				hipblasHgemm_64	6.3.0				
cublasSgemm					hipblasSgemm	1.8.2				
cublasSgemmBatched					hipblasSgemmBatched	1.8.2				
cublasSgemmBatched_64	12.0				hipblasSgemmBatched_64	6.3.0				
cublasSgemmGroupedBatched	12.4									
cublasSgemmGroupedBatched_64	12.4									
cublasSgemmStridedBatched	8.0				hipblasSgemmStridedBatched	1.8.2				
cublasSgemmStridedBatched_64	12.0				hipblasSgemmStridedBatched_64	6.3.0				
cublasSgemm_64	12.0				hipblasSgemm_64	6.3.0				
cublasSgemm_v2					hipblasSgemm	1.8.2				
cublasSgemm_v2_64	12.0				hipblasSgemm_64	6.3.0				
cublasSgemvBatched	11.6				hipblasSgemvBatched	1.6.0				
cublasSgemvBatched_64	12.0				hipblasSgemvBatched_64	6.2.0				
cublasSgemvStridedBatched	11.6				hipblasSgemvStridedBatched	3.0.0				
cublasSgemvStridedBatched_64	12.0				hipblasSgemvStridedBatched_64	6.2.0				
cublasSsymm					hipblasSsymm	3.6.0				
cublasSsymm_64	12.0				hipblasSsymm_64	6.3.0				
cublasSsymm_v2					hipblasSsymm	3.6.0				
cublasSsymm_v2_64	12.0				hipblasSsymm_64	6.3.0				
cublasSsyr2k					hipblasSsyr2k	3.5.0				
cublasSsyr2k_64	12.0				hipblasSsyr2k_64	6.3.0				
cublasSsyr2k_v2					hipblasSsyr2k	3.5.0				
cublasSsyr2k_v2_64	12.0				hipblasSsyr2k_64	6.3.0				
cublasSsyrk					hipblasSsyrk	3.5.0				
cublasSsyrk_64	12.0				hipblasSsyrk_64	6.3.0				
cublasSsyrk_v2					hipblasSsyrk	3.5.0				
cublasSsyrk_v2_64	12.0				hipblasSsyrk_64	6.3.0				
cublasSsyrkx					hipblasSsyrkx	3.5.0				
cublasSsyrkx_64	12.0				hipblasSsyrkx_64	6.3.0				
cublasStrmm					hipblasStrmm	3.2.0		6.0.0		
cublasStrmm_64	12.0				hipblasStrmm_64	6.3.0				
cublasStrmm_v2					hipblasStrmm	3.2.0		6.0.0		
cublasStrmm_v2_64	12.0				hipblasStrmm_64	6.3.0				
cublasStrsm					hipblasStrsm	1.8.2				
cublasStrsm_64	12.0				hipblasStrsm_64	6.3.0				
cublasStrsm_v2					hipblasStrsm	1.8.2				
cublasStrsm_v2_64	12.0				hipblasStrsm_64	6.3.0				
cublasTSSgemvBatched	11.6									
cublasTSSgemvBatched_64	12.0									
cublasTSSgemvStridedBatched	11.6									
cublasTSSgemvStridedBatched_64	12.0									
cublasTSTgemvBatched	11.6									

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Table 7.18 – continued from previous page

CUDA	A	D	C	R	HIP	A	D	C	R	E
cublasTSTgemvBatched_64	12.0									
cublasTSTgemvStridedBatched	11.6									
cublasTSTgemvStridedBatched_64	12.0									
cublasZgemm					hipblasZgemm	1.6.0		7.0.0		
cublasZgemm3m	8.0									
cublasZgemm3m_64	12.0									
cublasZgemmBatched					hipblasZgemmBatched	1.6.0		7.0.0		
cublasZgemmBatched_64	12.0				hipblasZgemmBatched_64	6.3.0		7.0.0		
cublasZgemmStridedBatched	8.0				hipblasZgemmStridedBatched	3.0.0		7.0.0		
cublasZgemmStridedBatched_64	12.0				hipblasZgemmStridedBatched_64	6.3.0		7.0.0		
cublasZgemm_64	12.0				hipblasZgemm_64	6.3.0		7.0.0		
cublasZgemm_v2					hipblasZgemm	1.6.0		7.0.0		
cublasZgemm_v2_64	12.0				hipblasZgemm_64	6.3.0		7.0.0		
cublasZgemvBatched	11.6				hipblasZgemvBatched	3.0.0		7.0.0		
cublasZgemvBatched_64	12.0				hipblasZgemvBatched_64	6.2.0		7.0.0		
cublasZgemvStridedBatched	11.6				hipblasZgemvStridedBatched	3.0.0		7.0.0		
cublasZgemvStridedBatched_64	12.0				hipblasZgemvStridedBatched_64	6.2.0		7.0.0		
cublasZhemm					hipblasZhemm	3.6.0		7.0.0		
cublasZhemm_64	12.0				hipblasZhemm_64	6.3.0		7.0.0		
cublasZhemm_v2					hipblasZhemm	3.6.0		7.0.0		
cublasZhemm_v2_64	12.0				hipblasZhemm_64	6.3.0		7.0.0		
cublasZher2k					hipblasZher2k	3.5.0		7.0.0		
cublasZher2k_64	12.0				hipblasZher2k_64	6.3.0		7.0.0		
cublasZher2k_v2					hipblasZher2k	3.5.0		7.0.0		
cublasZher2k_v2_64	12.0				hipblasZher2k_64	6.3.0		7.0.0		
cublasZherk					hipblasZherk	3.5.0		7.0.0		
cublasZherk_64	12.0				hipblasZherk_64	6.3.0		7.0.0		
cublasZherk_v2					hipblasZherk	3.5.0		7.0.0		
cublasZherk_v2_64	12.0				hipblasZherk_64	6.3.0		7.0.0		
cublasZherkx					hipblasZherkx	3.5.0		7.0.0		
cublasZherkx_64	12.0				hipblasZherkx_64	6.3.0		7.0.0		
cublasZsymm					hipblasZsymm	3.6.0		7.0.0		
cublasZsymm_64	12.0				hipblasZsymm_64	6.3.0		7.0.0		
cublasZsymm_v2					hipblasZsymm	3.6.0		7.0.0		
cublasZsymm_v2_64	12.0				hipblasZsymm_64	6.3.0		7.0.0		
cublasZsyr2k					hipblasZsyr2k	3.5.0		7.0.0		
cublasZsyr2k_64	12.0				hipblasZsyr2k_64	6.3.0		7.0.0		
cublasZsyr2k_v2					hipblasZsyr2k	3.5.0		7.0.0		
cublasZsyr2k_v2_64	12.0				hipblasZsyr2k_64	6.3.0		7.0.0		
cublasZsyrk					hipblasZsyrk	3.5.0		7.0.0		
cublasZsyrk_64	12.0				hipblasZsyrk_64	6.3.0		7.0.0		
cublasZsyrk_v2					hipblasZsyrk	3.5.0		7.0.0		
cublasZsyrk_v2_64	12.0				hipblasZsyrk_64	6.3.0		7.0.0		
cublasZsyrkx					hipblasZsyrkx	3.5.0		7.0.0		
cublasZsyrkx_64	12.0				hipblasZsyrkx_64	6.3.0		7.0.0		
cublasZtrmm					hipblasZtrmm	3.5.0		7.0.0		
cublasZtrmm_64	12.0				hipblasZtrmm_64	6.3.0		7.0.0		
cublasZtrmm_v2					hipblasZtrmm	3.5.0		7.0.0		
cublasZtrmm_v2_64	12.0				hipblasZtrmm_64	6.3.0		7.0.0		
cublasZtrsm					hipblasZtrsm	3.5.0		7.0.0		

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Table 7.18 – continued from previous page

CUDA	A	D	C	R	HIP	A	D	C	R	E
cublasZtrsm_64	12.0				hipblasZtrsm_64	6.3.0		7.0.0		
cublasZtrsm_v2					hipblasZtrsm	3.5.0		7.0.0		
cublasZtrsm_v2_64	12.0				hipblasZtrsm_64	6.3.0		7.0.0		

7.6.8 8. BLAS-like Extension

CUDA	A	D	C	R	HIP	A	D	C	R	I
cublasAsumEx	10.1									
cublasAsumEx_64	12.0									
cublasAxpyEx	8.0				hipblasAxpyEx	4.1.0		7.0.0		
cublasAxpyEx_64	12.0				hipblasAxpyEx_64	6.2.0		7.0.0		
cublasCdgmm					hipblasCdgmm	3.6.0		7.0.0		
cublasCdgmm_64	12.0				hipblasCdgmm_64	6.3.0		7.0.0		
cublasCgeam					hipblasCgeam	3.6.0		7.0.0		
cublasCgeam_64	12.0				hipblasCgeam_64	6.3.0		7.0.0		
cublasCgelsBatched					hipblasCgelsBatched	5.4.0		7.0.0		
cublasCgemmEx	8.0									
cublasCgemmEx_64	12.0									
cublasCgeqrfBatched					hipblasCgeqrfBatched	3.5.0		7.0.0		
cublasCgetrfBatched					hipblasCgetrfBatched	3.5.0		7.0.0		
cublasCgetriBatched					hipblasCgetriBatched	3.7.0		7.0.0		
cublasCgetrsBatched					hipblasCgetrsBatched	3.5.0		7.0.0		
cublasCherk3mEx	8.0									
cublasCherk3mEx_64	12.0									
cublasCherkEx	8.0									
cublasCherkEx_64	12.0									
cublasCmatinvBatched										
cublasCopyEx	10.1									
cublasCopyEx_64	12.0									
cublasCsyrk3mEx	8.0									
cublasCsyrk3mEx_64	12.0									
cublasCsyrkEx	8.0									
cublasCsyrkEx_64	12.0									
cublasCtpttr										
cublasCtrsmBatched					hipblasCtrsmBatched	3.5.0		7.0.0		
cublasCtrsmBatched_64	12.0				hipblasCtrsmBatched_64	6.3.0		7.0.0		
cublasCtrttp										
cublasDdgmm					hipblasDdgmm	3.6.0				
cublasDdgmm_64	12.0				hipblasDdgmm_64	6.3.0				
cublasDgeam					hipblasDgeam	1.8.2				
cublasDgeam_64	12.0				hipblasDgeam_64	6.3.0				
cublasDgelsBatched					hipblasDgelsBatched	5.4.0				
cublasDgeqrfBatched					hipblasDgeqrfBatched	3.5.0				
cublasDgetrfBatched					hipblasDgetrfBatched	3.5.0				
cublasDgetriBatched					hipblasDgetriBatched	3.7.0				
cublasDgetrsBatched					hipblasDgetrsBatched	3.5.0				
cublasDmatinvBatched										
cublasDotEx	8.0				hipblasDotEx	4.1.0		7.0.0		
cublasDotEx_64	12.0				hipblasDotEx_64	6.2.0		7.0.0		

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CUDA	A	D	C	R	HIP	A	D	C	R
cublasDotcEx	8.0				hipblasDotcEx	4.1.0		7.0.0	
cublasDotcEx_64	12.0				hipblasDotcEx_64	6.2.0		7.0.0	
cublasDtpttr									
cublasDtrsmBatched					hipblasDtrsmBatched	3.2.0			
cublasDtrsmBatched_64	12.0				hipblasDtrsmBatched_64	6.3.0			
cublasDtrttp									
cublasGemmBatchedEx	9.1		11.0		hipblasGemmBatchedEx	3.6.0		7.0.0	
cublasGemmBatchedEx_64	12.0				hipblasGemmBatchedEx_64	6.3.0		7.0.0	
cublasGemmEx	8.0		11.0		hipblasGemmEx	1.8.2		7.0.0	
cublasGemmEx_64	12.0				hipblasGemmEx_64	6.3.0		7.0.0	
cublasGemmStridedBatchedEx	9.1		11.0		hipblasGemmStridedBatchedEx	3.6.0		7.0.0	
cublasGemmStridedBatchedEx_64	12.0				hipblasGemmStridedBatchedEx_64	6.3.0		7.0.0	
cublasIamaxEx	10.1								
cublasIamaxEx_64	12.0								
cublasIaminEx	10.1								
cublasIaminEx_64	12.0								
cublasRotEx	10.1				hipblasRotEx	4.1.0		7.0.0	
cublasRotEx_64	12.0				hipblasRotEx_64	6.2.0		7.0.0	
cublasRotgEx	10.1								
cublasRotmEx	10.1								
cublasRotmEx_64	12.0								
cublasRotmgEx	10.1								
cublasScalEx	8.0				hipblasScalEx	4.1.0		7.0.0	
cublasScalEx_64	12.0				hipblasScalEx_64	6.2.0		7.0.0	
cublasSdgmm					hipblasSdgmm	3.6.0			
cublasSdgmm_64	12.0				hipblasSdgmm_64	6.3.0			
cublasSgeam					hipblasSgeam	1.8.2			
cublasSgeam_64	12.0				hipblasSgeam_64	6.3.0			
cublasSgelsBatched					hipblasSgelsBatched	5.4.0			
cublasSgemmEx	7.5								
cublasSgemmEx_64	12.0								
cublasSgeqrfBatched					hipblasSgeqrfBatched	3.5.0			
cublasSgetrfBatched					hipblasSgetrfBatched	3.5.0			
cublasSgetriBatched					hipblasSgetriBatched	3.7.0			
cublasSgetrsBatched					hipblasSgetrsBatched	3.5.0			
cublasSmatinvBatched									
cublasStpttr									
cublasStrsmBatched					hipblasStrsmBatched	3.2.0			
cublasStrsmBatched_64	12.0				hipblasStrsmBatched_64	6.3.0			
cublasStrttp									
cublasSwapEx	10.1								
cublasSwapEx_64	12.0								
cublasUint8gemmBias	8.0								
cublasZdgmm					hipblasZdgmm	3.6.0		7.0.0	
cublasZdgmm_64	12.0				hipblasZdgmm_64	6.3.0		7.0.0	
cublasZgeam					hipblasZgeam	3.6.0		7.0.0	
cublasZgeam_64	12.0				hipblasZgeam_64	6.3.0		7.0.0	
cublasZgelsBatched					hipblasZgelsBatched	5.4.0		7.0.0	
cublasZgeqrfBatched					hipblasZgeqrfBatched	3.5.0		7.0.0	
cublasZgetrfBatched					hipblasZgetrfBatched	3.5.0		7.0.0	

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Table 7.19 – continued from previous page

CUDA	A	D	C	R	HIP	A	D	C	R
cublasZgetriBatched					hipblasZgetriBatched	3.7.0		7.0.0	
cublasZgetrsBatched					hipblasZgetrsBatched	3.5.0		7.0.0	
cublasZmatinvBatched									
cublasZtpttr									
cublasZtrsmBatched					hipblasZtrsmBatched	3.5.0		7.0.0	
cublasZtrsmBatched_64	12.0				hipblasZtrsmBatched_64	6.3.0		7.0.0	
cublasZtrttp									

7.6.9 9. BLASLt Function Reference

CUDA	A	D	C	R	HIP
cublasLtCreate	10.1				hipblasLtCreate
cublasLtDestroy	10.1				hipblasLtDestroy
cublasLtDisableCpuInstructionsSetMask	12.1				
cublasLtGetCudartVersion	10.1				
cublasLtGetProperty	10.1				
cublasLtGetStatusName	11.4				
cublasLtGetStatusString	11.4				
cublasLtGetVersion	10.1				
cublasLtHeuristicsCacheGetCapacity	11.8				
cublasLtHeuristicsCacheSetCapacity	11.8				
cublasLtLoggerForceDisable	11.0				
cublasLtLoggerOpenFile	11.0				
cublasLtLoggerSetCallback	11.0				
cublasLtLoggerSetFile	11.0				
cublasLtLoggerSetLevel	11.0				
cublasLtLoggerSetMask	11.0				
cublasLtMatmul	10.1				hipblasLtMatmul
cublasLtMatmulAlgoCapGetAttribute	10.1				
cublasLtMatmulAlgoCheck	10.1				
cublasLtMatmulAlgoConfigGetAttribute	10.1				
cublasLtMatmulAlgoConfigSetAttribute	10.1				
cublasLtMatmulAlgoGetHeuristic	10.1				hipblasLtMatmulAlgoGetHeuristic
cublasLtMatmulAlgoGetIds	10.1				
cublasLtMatmulAlgoInit	10.1				
cublasLtMatmulDescCreate	10.1		11.0		hipblasLtMatmulDescCreate
cublasLtMatmulDescDestroy	10.1				hipblasLtMatmulDescDestroy
cublasLtMatmulDescGetAttribute	10.1				hipblasLtMatmulDescGetAttribute
cublasLtMatmulDescInit	11.0				
cublasLtMatmulDescSetAttribute	10.1				hipblasLtMatmulDescSetAttribute
cublasLtMatmulPreferenceCreate	10.1				hipblasLtMatmulPreferenceCreate
cublasLtMatmulPreferenceDestroy	10.1				hipblasLtMatmulPreferenceDestroy
cublasLtMatmulPreferenceGetAttribute	10.1				hipblasLtMatmulPreferenceGetAttribute
cublasLtMatmulPreferenceInit	11.0				
cublasLtMatmulPreferenceSetAttribute	10.1				hipblasLtMatmulPreferenceSetAttribute
cublasLtMatrixLayoutCreate	10.1				hipblasLtMatrixLayoutCreate
cublasLtMatrixLayoutDestroy	10.1				hipblasLtMatrixLayoutDestroy
cublasLtMatrixLayoutGetAttribute	10.1				hipblasLtMatrixLayoutGetAttribute
cublasLtMatrixLayoutInit	11.0				

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CUDA	A	D	C	R	HIP
cublasLtMatrixLayoutSetAttribute	10.1				hipblasLtMatrixLayoutSetAttribute
cublasLtMatrixTransform	10.1				hipblasLtMatrixTransform
cublasLtMatrixTransformDescCreate	10.1				hipblasLtMatrixTransformDescCreate
cublasLtMatrixTransformDescDestroy	10.1				hipblasLtMatrixTransformDescDestroy
cublasLtMatrixTransformDescGetAttribute	10.1				hipblasLtMatrixTransformDescGetAttribute
cublasLtMatrixTransformDescInit	11.0				
cublasLtMatrixTransformDescSetAttribute	10.1				hipblasLtMatrixTransformDescSetAttribute

7.7 CUSPARSE API supported by HIP

Note: In the tables that follow the columns marked A, D, C, R, and E mean the following: **A** - Added; **D** - Deprecated; **C** - Changed; **R** - Removed; **E** - Experimental

7.7.1 4. CUSPARSE Types References

CUDA	A	D	C	R	HIP
CUSPARSE_ACTION_NUMERIC					HIPSPARSE_ACTION_NUMERIC
CUSPARSE_ACTION_SYMBOLIC					HIPSPARSE_ACTION_SYMBOLIC
CUSPARSE_ALG0	8.0			11.0	
CUSPARSE_ALG1	8.0			11.0	
CUSPARSE_ALG_MERGE_PATH	9.2			12.0	
CUSPARSE_ALG_NAIVE	9.2			11.0	
CUSPARSE_COLOR_ALG0	8.0	12.2			
CUSPARSE_COLOR_ALG1	8.0	12.2			
CUSPARSE_COOMM_ALG1	10.1	11.0		12.0	HIPSPARSE_COOMM_ALG1
CUSPARSE_COOMM_ALG2	10.1	11.0		12.0	HIPSPARSE_COOMM_ALG2
CUSPARSE_COOMM_ALG3	10.1	11.0		12.0	HIPSPARSE_COOMM_ALG3
CUSPARSE_COOMV_ALG	10.2	11.2		12.0	HIPSPARSE_COOMV_ALG
CUSPARSE_CSR2CSC_ALG1	10.1				HIPSPARSE_CSR2CSC_ALG1
CUSPARSE_CSR2CSC_ALG2	10.1			12.0	HIPSPARSE_CSR2CSC_ALG2
CUSPARSE_CSR2CSC_ALG_DEFAULT	12.0				HIPSPARSE_CSR2CSC_ALG_DEFAULT
CUSPARSE_CSRMM_ALG1	10.2	11.0		12.0	HIPSPARSE_CSRMM_ALG1
CUSPARSE_CSRMV_ALG1	10.2	11.2		12.0	HIPSPARSE_CSRMV_ALG1
CUSPARSE_CSRMV_ALG2	10.2	11.2		12.0	HIPSPARSE_CSRMV_ALG2
CUSPARSE_DENSETOSPARSE_ALG_DEFAULT	11.1				HIPSPARSE_DENSETOSPARSE_ALG_DEFAULT
CUSPARSE_DIAG_TYPE_NON_UNIT					HIPSPARSE_DIAG_TYPE_NON_UNIT
CUSPARSE_DIAG_TYPE_UNIT					HIPSPARSE_DIAG_TYPE_UNIT
CUSPARSE_DIRECTION_COLUMN					HIPSPARSE_DIRECTION_COLUMN
CUSPARSE_DIRECTION_ROW					HIPSPARSE_DIRECTION_ROW
CUSPARSE_FILL_MODE_LOWER					HIPSPARSE_FILL_MODE_LOWER
CUSPARSE_FILL_MODE_UPPER					HIPSPARSE_FILL_MODE_UPPER
CUSPARSE_FORMAT_BLOCKED_ELL	11.2				HIPSPARSE_FORMAT_BLOCKED_ELL
CUSPARSE_FORMAT_BSR	12.1				
CUSPARSE_FORMAT_COO	10.1				HIPSPARSE_FORMAT_COO
CUSPARSE_FORMAT_COO_AOS	10.2			12.0	HIPSPARSE_FORMAT_COO_AOS
CUSPARSE_FORMAT_CSC	10.1				HIPSPARSE_FORMAT_CSC
CUSPARSE_FORMAT_CSR	10.1				HIPSPARSE_FORMAT_CSR
CUSPARSE_FORMAT_SLICED_ELLPACK	12.1				

Table 7.21 – continued from previous page

CUDA	A	D	C	R	HIP
CUSPARSE_HYB_PARTITION_AUTO		10.2		11.0	HIPSPARSE_HYB_PARTITION_AUTO
CUSPARSE_HYB_PARTITION_MAX		10.2		11.0	HIPSPARSE_HYB_PARTITION_MAX
CUSPARSE_HYB_PARTITION_USER		10.2		11.0	HIPSPARSE_HYB_PARTITION_USER
CUSPARSE_INDEX_16U	10.1				HIPSPARSE_INDEX_16U
CUSPARSE_INDEX_32I	10.1				HIPSPARSE_INDEX_32I
CUSPARSE_INDEX_64I	10.1				HIPSPARSE_INDEX_64I
CUSPARSE_INDEX_BASE_ONE					HIPSPARSE_INDEX_BASE_ONE
CUSPARSE_INDEX_BASE_ZERO					HIPSPARSE_INDEX_BASE_ZERO
CUSPARSE_MATRIX_TYPE_GENERAL					HIPSPARSE_MATRIX_TYPE_GENERAL
CUSPARSE_MATRIX_TYPE_HERMITIAN					HIPSPARSE_MATRIX_TYPE_HERMITIAN
CUSPARSE_MATRIX_TYPE_SYMMETRIC					HIPSPARSE_MATRIX_TYPE_SYMMETRIC
CUSPARSE_MATRIX_TYPE_TRIANGULAR					HIPSPARSE_MATRIX_TYPE_TRIANGULAR
CUSPARSE_MM_ALG_DEFAULT	10.2	11.0		12.0	HIPSPARSE_MM_ALG_DEFAULT
CUSPARSE_MV_ALG_DEFAULT	10.2	11.3		12.0	HIPSPARSE_MV_ALG_DEFAULT
CUSPARSE_OPERATION_CONJUGATE_TRANSPOSE					HIPSPARSE_OPERATION_CONJUGATE_TRANSPOSE
CUSPARSE_OPERATION_NON_TRANSPOSE					HIPSPARSE_OPERATION_NON_TRANSPOSE
CUSPARSE_OPERATION_TRANSPOSE					HIPSPARSE_OPERATION_TRANSPOSE
CUSPARSE_ORDER_COL	10.1				HIPSPARSE_ORDER_COL
CUSPARSE_ORDER_ROW	10.1				HIPSPARSE_ORDER_ROW
CUSPARSE_POINTER_MODE_DEVICE					HIPSPARSE_POINTER_MODE_DEVICE
CUSPARSE_POINTER_MODE_HOST					HIPSPARSE_POINTER_MODE_HOST
CUSPARSE_SDDMM_ALG_DEFAULT	11.2				HIPSPARSE_SDDMM_ALG_DEFAULT
CUSPARSE_SIDE_LEFT				11.5	
CUSPARSE_SIDE_RIGHT				11.5	
CUSPARSE_SOLVE_POLICY_NO_LEVEL		12.2			HIPSPARSE_SOLVE_POLICY_NO_LEVEL
CUSPARSE_SOLVE_POLICY_USE_LEVEL		12.2			HIPSPARSE_SOLVE_POLICY_USE_LEVEL
CUSPARSE_SPARSETODENSE_ALG_DEFAULT	11.1				HIPSPARSE_SPARSETODENSE_ALG_DEFAULT
CUSPARSE_SPGEMM_ALG1	12.0				HIPSPARSE_SPGEMM_ALG1
CUSPARSE_SPGEMM_ALG2	12.0				HIPSPARSE_SPGEMM_ALG2
CUSPARSE_SPGEMM_ALG3	12.0				HIPSPARSE_SPGEMM_ALG3
CUSPARSE_SPGEMM_CSR_ALG_DETERMINITIC	11.3				HIPSPARSE_SPGEMM_CSR_ALG_DETERMINISTIC
CUSPARSE_SPGEMM_CSR_ALG_NONDETERMINITIC	11.3				HIPSPARSE_SPGEMM_CSR_ALG_NONDETERMINIST
CUSPARSE_SPGEMM_DEFAULT	11.0				HIPSPARSE_SPGEMM_DEFAULT
CUSPARSE_SPMAT_DIAG_TYPE	11.3				HIPSPARSE_SPMAT_DIAG_TYPE
CUSPARSE_SPMAT_FILL_MODE	11.3				HIPSPARSE_SPMAT_FILL_MODE
CUSPARSE_SPMMA_ALG1	11.1			11.2	
CUSPARSE_SPMMA_ALG2	11.1			11.2	
CUSPARSE_SPMMA_ALG3	11.1			11.2	
CUSPARSE_SPMMA_ALG4	11.1			11.2	
CUSPARSE_SPMMA_PREPROCESS	11.1			11.2	
CUSPARSE_SPMM_ALG_DEFAULT	11.0				HIPSPARSE_SPMM_ALG_DEFAULT
CUSPARSE_SPMM_BLOCKED_ELL_ALG1	11.2				HIPSPARSE_SPMM_BLOCKED_ELL_ALG1
CUSPARSE_SPMM_BSR_ALG1	12.5				
CUSPARSE_SPMM_COO_ALG1	11.0				HIPSPARSE_SPMM_COO_ALG1
CUSPARSE_SPMM_COO_ALG2	11.0				HIPSPARSE_SPMM_COO_ALG2
CUSPARSE_SPMM_COO_ALG3	11.0				HIPSPARSE_SPMM_COO_ALG3
CUSPARSE_SPMM_COO_ALG4	11.0				HIPSPARSE_SPMM_COO_ALG4
CUSPARSE_SPMM_CSR_ALG1	11.0				HIPSPARSE_SPMM_CSR_ALG1
CUSPARSE_SPMM_CSR_ALG2	11.0				HIPSPARSE_SPMM_CSR_ALG2
CUSPARSE_SPMM_CSR_ALG3	11.2				HIPSPARSE_SPMM_CSR_ALG3

Table 7.21 – continued from previous page

CUDA	A	D	C	R	HIP
CUSPARSE_SPMM_OP_ALG_DEFAULT	11.5				
CUSPARSE_SPMV_ALG_DEFAULT	11.2				HIPSPARSE_SPMV_ALG_DEFAULT
CUSPARSE_SPMV_COO_ALG1	11.2				HIPSPARSE_SPMV_COO_ALG1
CUSPARSE_SPMV_COO_ALG2	11.2				HIPSPARSE_SPMV_COO_ALG2
CUSPARSE_SPMV_CSR_ALG1	11.2				HIPSPARSE_SPMV_CSR_ALG1
CUSPARSE_SPMV_CSR_ALG2	11.2				HIPSPARSE_SPMV_CSR_ALG2
CUSPARSE_SPMV_SELL_ALG1	12.1				
CUSPARSE_SPSM_ALG_DEFAULT	11.3				HIPSPARSE_SPSM_ALG_DEFAULT
CUSPARSE_SPSM_UPDATE_DIAGONAL	12.4				
CUSPARSE_SPSM_UPDATE_GENERAL	12.4				
CUSPARSE_SPSV_ALG_DEFAULT	11.3				HIPSPARSE_SPSV_ALG_DEFAULT
CUSPARSE_SPSV_UPDATE_DIAGONAL	12.1				
CUSPARSE_SPSV_UPDATE_GENERAL	12.1				
CUSPARSE_STATUS_ALLOC_FAILED					HIPSPARSE_STATUS_ALLOC_FAILED
CUSPARSE_STATUS_ARCH_MISMATCH					HIPSPARSE_STATUS_ARCH_MISMATCH
CUSPARSE_STATUS_EXECUTION_FAILED					HIPSPARSE_STATUS_EXECUTION_FAILED
CUSPARSE_STATUS_INSUFFICIENT_RESOURCES	11.0				HIPSPARSE_STATUS_INSUFFICIENT_RESOURCES
CUSPARSE_STATUS_INTERNAL_ERROR					HIPSPARSE_STATUS_INTERNAL_ERROR
CUSPARSE_STATUS_INVALID_VALUE					HIPSPARSE_STATUS_INVALID_VALUE
CUSPARSE_STATUS_MAPPING_ERROR					HIPSPARSE_STATUS_MAPPING_ERROR
CUSPARSE_STATUS_MATRIX_TYPE_NOT_SUPPORTED					HIPSPARSE_STATUS_MATRIX_TYPE_NOT_SUPPO
CUSPARSE_STATUS_NOT_INITIALIZED					HIPSPARSE_STATUS_NOT_INITIALIZED
CUSPARSE_STATUS_NOT_SUPPORTED	10.2				HIPSPARSE_STATUS_NOT_SUPPORTED
CUSPARSE_STATUS_SUCCESS					HIPSPARSE_STATUS_SUCCESS
CUSPARSE_STATUS_ZERO_PIVOT					HIPSPARSE_STATUS_ZERO_PIVOT
bsric02Info					bsric02Info
bsric02Info_t					bsric02Info_t
bsrilu02Info		12.2			bsrilu02Info
bsrilu02Info_t		12.2			bsrilu02Info_t
bsrsm2Info		12.2			bsrsm2Info
bsrsm2Info_t		12.2			bsrsm2Info_t
bsrsv2Info		12.2			bsrsv2Info
bsrsv2Info_t		12.2			bsrsv2Info_t
csrgemm2Info				12.0	csrgemm2Info
csrgemm2Info_t				12.0	csrgemm2Info_t
csric02Info		12.2			csric02Info
csric02Info_t		12.2			csric02Info_t
csrilu02Info		12.2			csrilu02Info
csrilu02Info_t		12.2			csrilu02Info_t
csrsm2Info	9.2			12.0	
csrsm2Info_t	9.2			12.0	csrsm2Info_t
csrsv2Info				12.0	
csrsv2Info_t				12.0	csrsv2Info_t
csru2csrInfo		12.2			csru2csrInfo
csru2csrInfo_t		12.2			csru2csrInfo_t
cusparseAction_t					hipsparseAction_t
cusparseAlgMode_t	8.0			12.0	
cusparseColorAlg_t	8.0	12.2			
cusparseColorInfo		12.2			
cusparseColorInfo_t		12.2			hipsparseColorInfo_t

Table 7.21 – continued from previous page

CUDA	A	D	C	R	HIP
cusparseConstDnMatDescr_t	12.0				hipsparseConstDnMatDescr_t
cusparseConstDnVecDescr_t	12.0				hipsparseConstDnVecDescr_t
cusparseConstSpMatDescr_t	12.0				hipsparseConstSpMatDescr_t
cusparseConstSpVecDescr_t	12.0				hipsparseConstSpVecDescr_t
cusparseContext					
cusparseCsr2CscAlg_t	10.1				hipsparseCsr2CscAlg_t
cusparseDenseToSparseAlg_t	11.1				hipsparseDenseToSparseAlg_t
cusparseDiagType_t					hipsparseDiagType_t
cusparseDirection_t					hipsparseDirection_t
cusparseDnMatDescr	10.1				
cusparseDnMatDescr_t	10.1				hipsparseDnMatDescr_t
cusparseDnVecDescr	10.2				
cusparseDnVecDescr_t	10.2				hipsparseDnVecDescr_t
cusparseFillMode_t					hipsparseFillMode_t
cusparseFormat_t	10.1				hipsparseFormat_t
cusparseHandle_t					hipsparseHandle_t
cusparseHybMat		10.2		11.0	
cusparseHybMat_t		10.2		11.0	hipsparseHybMat_t
cusparseHybPartition_t		10.2		11.0	hipsparseHybPartition_t
cusparseIndexBase_t					hipsparseIndexBase_t
cusparseIndexType_t	10.1				hipsparseIndexType_t
cusparseLoggerCallback_t	11.5				
cusparseMatDescr					
cusparseMatDescr_t					hipsparseMatDescr_t
cusparseMatrixType_t					hipsparseMatrixType_t
cusparseOperation_t					hipsparseOperation_t
cusparseOrder_t	10.1				hipsparseOrder_t
cusparsePointerMode_t					hipsparsePointerMode_t
cusparseSDDMMAlg_t	11.2				hipsparseSDDMMAlg_t
cusparseSideMode_t				11.5	
cusparseSolveAnalysisInfo		10.2		11.0	
cusparseSolveAnalysisInfo_t		10.2		11.0	
cusparseSolvePolicy_t		12.2			hipsparseSolvePolicy_t
cusparseSpGEMMAlg_t	11.0				hipsparseSpGEMMAlg_t
cusparseSpGEMMDescr	11.0				hipsparseSpGEMMDescr
cusparseSpGEMMDescr_t	11.0				hipsparseSpGEMMDescr_t
cusparseSpMMAlg_t	10.1				hipsparseSpMMAlg_t
cusparseSpMMOpAlg_t	11.5				
cusparseSpMMOpPlan	11.5				
cusparseSpMMOpPlan_t	11.5				
cusparseSpMVAlg_t	10.2				hipsparseSpMVAlg_t
cusparseSpMatAttribute_t	11.3				hipsparseSpMatAttribute_t
cusparseSpMatDescr	10.1				
cusparseSpMatDescr_t	10.1				hipsparseSpMatDescr_t
cusparseSpSMAlg_t	11.3				hipsparseSpSMAlg_t
cusparseSpSMDescr	11.3				hipsparseSpSMDescr
cusparseSpSMDescr_t	11.3				hipsparseSpSMDescr_t
cusparseSpSMUpdate_t	12.4				
cusparseSpSVAlg_t	11.3				hipsparseSpSVAlg_t
cusparseSpSVDescr	11.3				hipsparseSpSVDescr

Table 7.21 – continued from previous page

CUDA	A	D	C	R	HIP
cusparseSpSVDescr_t	11.3				hipsparseSpSVDescr_t
cusparseSpSVUpdate_t	12.1				
cusparseSpVecDescr	10.2				
cusparseSpVecDescr_t	10.2				hipsparseSpVecDescr_t
cusparseSparseToDenseAlg_t	11.1				hipsparseSparseToDenseAlg_t
cusparseStatus_t					hipsparseStatus_t
pruneInfo	9.0	12.2			pruneInfo
pruneInfo_t	9.0	12.2			pruneInfo_t

7.7.2 5. CUSPARSE Management Function Reference

CUDA	A	D	C	R	HIP	A	D	C	R	E
cusparseCreate					hipsparseCreate	1.9.2				
cusparseDestroy					hipsparseDestroy	1.9.2				
cusparseGetErrorName	10.2				hipsparseGetErrorName	6.0.0				
cusparseGetErrorString	10.2				hipsparseGetErrorString	6.0.0				
cusparseGetPointerMode					hipsparseGetPointerMode	1.9.2				
cusparseGetStream	8.0				hipsparseGetStream	1.9.2				
cusparseGetVersion					hipsparseGetVersion	1.9.2				
cusparseSetPointerMode					hipsparseSetPointerMode	1.9.2				
cusparseSetStream					hipsparseSetStream	1.9.2				

7.7.3 6. CUSPARSE Logging

CUDA	A	D	C	R	HIP	A	D	C	R	E
cusparseLoggerForceDisable	11.5									
cusparseLoggerOpenFile	11.5									
cusparseLoggerSetCallback	11.5									
cusparseLoggerSetFile	11.5									
cusparseLoggerSetLevel	11.5									
cusparseLoggerSetMask	11.5									

7.7.4 7. CUSPARSE Helper Function Reference

CUDA	A	D	C	R	HIP	A	D	C	R
cusparseCopyMatDescr	8.0			12.0	hipsparseCopyMatDescr	1.9.2			
cusparseCreateBsric02Info		12.2			hipsparseCreateBsric02Info	3.8.0	6.2.0		
cusparseCreateBsrilu02Info		12.2			hipsparseCreateBsrilu02Info	3.9.0	6.2.0		
cusparseCreateBsrsm2Info		12.2			hipsparseCreateBsrsm2Info	4.5.0	6.2.0		
cusparseCreateBsrsv2Info		12.2			hipsparseCreateBsrsv2Info	3.6.0	6.2.0		
cusparseCreateColorInfo		12.2			hipsparseCreateColorInfo	4.5.0	6.2.0		
cusparseCreateCsrgemm2Info		11.0		12.0	hipsparseCreateCsrgemm2Info	2.8.0	3.9.0		
cusparseCreateCsric02Info		12.2			hipsparseCreateCsric02Info	3.1.0	6.2.0		
cusparseCreateCsrilu02Info		12.2			hipsparseCreateCsrilu02Info	1.9.2	6.2.0		
cusparseCreateCsrsm2Info	9.2	11.3		12.0	hipsparseCreateCsrsm2Info	3.1.0	5.6.0		
cusparseCreateCsrsv2Info		11.3		12.0	hipsparseCreateCsrsv2Info	1.9.2	5.6.0		
cusparseCreateHybMat		10.2		11.0	hipsparseCreateHybMat	1.9.2	3.9.0		
cusparseCreateMatDescr					hipsparseCreateMatDescr	1.9.2			
cusparseCreatePruneInfo	9.0	12.2			hipsparseCreatePruneInfo	3.9.0	6.2.0		
cusparseCreateSolveAnalysisInfo		10.2		11.0					
cusparseDestroyBsric02Info		12.2			hipsparseDestroyBsric02Info	3.8.0	6.2.0		
cusparseDestroyBsrilu02Info		12.2			hipsparseDestroyBsrilu02Info	3.9.0	6.2.0		
cusparseDestroyBsrsm2Info		12.2			hipsparseDestroyBsrsm2Info	4.5.0	6.2.0		
cusparseDestroyBsrsv2Info		12.2			hipsparseDestroyBsrsv2Info	3.6.0	6.2.0		
cusparseDestroyColorInfo		12.2			hipsparseDestroyColorInfo	4.5.0	6.2.0		
cusparseDestroyCsrgemm2Info		11.0		12.0	hipsparseDestroyCsrgemm2Info	2.8.0	3.9.0		
cusparseDestroyCsric02Info		12.2			hipsparseDestroyCsric02Info	3.1.0	6.2.0		
cusparseDestroyCsrilu02Info		12.2			hipsparseDestroyCsrilu02Info	1.9.2	6.2.0		
cusparseDestroyCsrsm2Info	9.2	11.3		12.0	hipsparseDestroyCsrsm2Info	3.1.0	5.6.0		
cusparseDestroyCsrsv2Info		11.3		12.0	hipsparseDestroyCsrsv2Info	1.9.2	5.6.0		
cusparseDestroyHybMat		10.2		11.0	hipsparseDestroyHybMat	1.9.2	3.9.0		
cusparseDestroyMatDescr					hipsparseDestroyMatDescr	1.9.2			
cusparseDestroyPruneInfo	9.0	12.2			hipsparseDestroyPruneInfo	3.9.0	6.2.0		
cusparseDestroySolveAnalysisInfo		10.2		11.0					
cusparseGetLevelInfo				11.0					
cusparseGetMatDiagType					hipsparseGetMatDiagType	1.9.2			
cusparseGetMatFillMode					hipsparseGetMatFillMode	1.9.2			
cusparseGetMatIndexBase					hipsparseGetMatIndexBase	1.9.2			
cusparseGetMatType					hipsparseGetMatType	1.9.2			
cusparseSetMatDiagType					hipsparseSetMatDiagType	1.9.2			
cusparseSetMatFillMode					hipsparseSetMatFillMode	1.9.2			
cusparseSetMatIndexBase					hipsparseSetMatIndexBase	1.9.2			
cusparseSetMatType					hipsparseSetMatType	1.9.2			

7.7.5 8. CUSPARSE Level 1 Function Reference

CUDA	A	D	C	R	HIP	A	D	C	R	E
cusparseCaxpyi		11.0		12.0	hipsparseCaxpyi	3.1.0	3.9.0			
cusparseCdotci		10.2		11.0	hipsparseCdotci	3.1.0	3.9.0			
cusparseCdoti		10.2		11.0	hipsparseCdoti	3.1.0	3.9.0			
cusparseCgthr		11.0		12.0	hipsparseCgthr	3.1.0	3.9.0			
cusparseCgthrz		11.0		12.0	hipsparseCgthrz	3.1.0	3.9.0			
cusparseCsctr		11.0		12.0	hipsparseCsctr	3.1.0	3.9.0			
cusparseDaxpyi		11.0		12.0	hipsparseDaxpyi	1.9.2	3.9.0			
cusparseDdoti		10.2		11.0	hipsparseDdoti	1.9.2	3.9.0			
cusparseDgthr		11.0		12.0	hipsparseDgthr	1.9.2	3.9.0			
cusparseDgthrz		11.0		12.0	hipsparseDgthrz	1.9.2	3.9.0			
cusparseDroti		11.0		12.0	hipsparseDroti	1.9.2	3.9.0			
cusparseDsctr		11.0		12.0	hipsparseDsctr	1.9.2	3.9.0			
cusparseSaxpyi		11.0		12.0	hipsparseSaxpyi	1.9.2	3.9.0			
cusparseSdoti		10.2		11.0	hipsparseSdoti	1.9.2	3.9.0			
cusparseSgthr		11.0		12.0	hipsparseSgthr	1.9.2	3.9.0			
cusparseSgthrz		11.0		12.0	hipsparseSgthrz	1.9.2	3.9.0			
cusparseSroti		11.0		12.0	hipsparseSroti	1.9.2	3.9.0			
cusparseSsctr		11.0		12.0	hipsparseSsctr	1.9.2	3.9.0			
cusparseZaxpyi		11.0		12.0	hipsparseZaxpyi	3.1.0	3.9.0			
cusparseZdotci		10.2		11.0	hipsparseZdotci	3.1.0	3.9.0			
cusparseZdoti		10.2		11.0	hipsparseZdoti	3.1.0	3.9.0			
cusparseZgthr		11.0		12.0	hipsparseZgthr	3.1.0	3.9.0			
cusparseZgthrz		11.0		12.0	hipsparseZgthrz	3.1.0	3.9.0			
cusparseZsctr		11.0		12.0	hipsparseZsctr	3.1.0	3.9.0			

7.7.6 9. CUSPARSE Level 2 Function Reference

CUDA	A	D	C	R	HIP	A	D	C	R
cusparseCbsrmv					hipsparseCbsrmv	3.5.0			
cusparseCbsrsv2_analysis		12.2			hipsparseCbsrsv2_analysis	3.6.0	6.2.0		
cusparseCbsrsv2_bufferSize		12.2			hipsparseCbsrsv2_bufferSize	3.6.0	6.2.0		
cusparseCbsrsv2_bufferSizeExt		12.2			hipsparseCbsrsv2_bufferSizeExt	3.6.0			
cusparseCbsrsv2_solve		12.2			hipsparseCbsrsv2_solve	3.6.0	6.2.0		
cusparseCbsrxmv		12.2			hipsparseCbsrxmv	4.5.0	6.2.0		
cusparseCcsrmv		10.2		11.0	hipsparseCcsrmv	3.1.0	3.9.0		
cusparseCcsrmv_mp	8.0	10.2		11.0					
cusparseCcsrsv2_analysis		11.3		12.0	hipsparseCcsrsv2_analysis	3.1.0	5.6.0		
cusparseCcsrsv2_bufferSize		11.3		12.0	hipsparseCcsrsv2_bufferSize	3.1.0	5.6.0		
cusparseCcsrsv2_bufferSizeExt		11.3		12.0	hipsparseCcsrsv2_bufferSizeExt	3.1.0			
cusparseCcsrsv2_solve		11.3		12.0	hipsparseCcsrsv2_solve	3.1.0	5.6.0		
cusparseCcsrsv_analysis		10.2		11.0					
cusparseCcsrsv_solve		10.2		11.0					
cusparseCgemvi	7.5	12.8			hipsparseCgemvi	4.3.0			
cusparseCgemvi_bufferSize	7.5	12.8			hipsparseCgemvi_bufferSize	4.3.0			
cusparseChybmv		10.2		11.0	hipsparseChybmv	3.1.0	3.9.0		
cusparseChybsv_analysis		10.2		11.0					
cusparseChybsv_solve		10.2		11.0					
cusparseCsrmvEx	8.0	11.2		12.0					
cusparseCsrmvEx_bufferSize	8.0	11.2		12.0					
cusparseCsrsv_analysisEx	8.0	10.2		11.0					
cusparseCsrsv_solveEx	8.0	10.2		11.0					
cusparseDbsrmv					hipsparseDbsrmv	3.5.0			
cusparseDbsrsv2_analysis		12.2			hipsparseDbsrsv2_analysis	3.6.0	6.2.0		
cusparseDbsrsv2_bufferSize		12.2			hipsparseDbsrsv2_bufferSize	3.6.0	6.2.0		
cusparseDbsrsv2_bufferSizeExt		12.2			hipsparseDbsrsv2_bufferSizeExt	3.6.0			
cusparseDbsrsv2_solve		12.2			hipsparseDbsrsv2_solve	3.6.0	6.2.0		
cusparseDbsrxmv		12.2			hipsparseDbsrxmv	4.5.0	6.2.0		
cusparseDcsrmv		10.2		11.0	hipsparseDcsrmv	1.9.2	3.9.0		
cusparseDcsrmv_mp	8.0	10.2		11.0					
cusparseDcsrsv2_analysis		11.3		12.0	hipsparseDcsrsv2_analysis	1.9.2	5.6.0		
cusparseDcsrsv2_bufferSize		11.3		12.0	hipsparseDcsrsv2_bufferSize	1.9.2	5.6.0		
cusparseDcsrsv2_bufferSizeExt		11.3		12.0	hipsparseDcsrsv2_bufferSizeExt	1.9.2			
cusparseDcsrsv2_solve		11.3		12.0	hipsparseDcsrsv2_solve	1.9.2	5.6.0		
cusparseDcsrsv_analysis		10.2		11.0					
cusparseDcsrsv_solve		10.2		11.0					
cusparseDgemvi	7.5	12.8			hipsparseDgemvi	4.3.0			
cusparseDgemvi_bufferSize	7.5	12.8			hipsparseDgemvi_bufferSize	4.3.0			
cusparseDhybmv		10.2		11.0	hipsparseDhybmv	1.9.2	3.9.0		
cusparseDhybsv_analysis		10.2		11.0					
cusparseDhybsv_solve		10.2		11.0					
cusparseSbsrmv					hipsparseSbsrmv	3.5.0			
cusparseSbsrsv2_analysis		12.2			hipsparseSbsrsv2_analysis	3.6.0	6.2.0		
cusparseSbsrsv2_bufferSize		12.2			hipsparseSbsrsv2_bufferSize	3.6.0	6.2.0		
cusparseSbsrsv2_bufferSizeExt		12.2			hipsparseSbsrsv2_bufferSizeExt	3.6.0			
cusparseSbsrsv2_solve		12.2			hipsparseSbsrsv2_solve	3.6.0	6.2.0		
cusparseSbsrxmv		12.2			hipsparseSbsrxmv	4.5.0	6.2.0		
cusparseScsrmv		10.2		11.0	hipsparseScsrmv	1.9.2	3.9.0		

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CUDA	A	D	C	R	HIP	A	D	C	R
cusparseScsrmv_mp	8.0	10.2		11.0					
cusparseScsrsv2_analysis		11.3		12.0	hipsparseScsrsv2_analysis	1.9.2	5.6.0		
cusparseScsrsv2_bufferSize		11.3		12.0	hipsparseScsrsv2_bufferSize	1.9.2	5.6.0		
cusparseScsrsv2_bufferSizeExt		11.3		12.0	hipsparseScsrsv2_bufferSizeExt	1.9.2			
cusparseScsrsv2_solve		11.3		12.0	hipsparseScsrsv2_solve	1.9.2	5.6.0		
cusparseScsrsv_analysis		10.2		11.0					
cusparseScsrsv_solve		10.2		11.0					
cusparseSgemvi	7.5	12.8			hipsparseSgemvi	4.3.0			
cusparseSgemvi_bufferSize	7.5	12.8			hipsparseSgemvi_bufferSize	4.3.0			
cusparseShybmv		10.2		11.0	hipsparseShybmv	1.9.2	3.9.0		
cusparseShybsv_analysis		10.2		11.0					
cusparseShybsv_solve		10.2		11.0					
cusparseXbsrsv2_zeroPivot		12.2			hipsparseXbsrsv2_zeroPivot	3.6.0	6.2.0		
cusparseXcsrsv2_zeroPivot		11.3		12.0	hipsparseXcsrsv2_zeroPivot	1.9.2	5.6.0		
cusparseZbsrmv					hipsparseZbsrmv	3.5.0			
cusparseZbsrsv2_analysis		12.2			hipsparseZbsrsv2_analysis	3.6.0	6.2.0		
cusparseZbsrsv2_bufferSize		12.2			hipsparseZbsrsv2_bufferSize	3.6.0	6.2.0		
cusparseZbsrsv2_bufferSizeExt		12.2			hipsparseZbsrsv2_bufferSizeExt	3.6.0			
cusparseZbsrsv2_solve		12.2			hipsparseZbsrsv2_solve	3.6.0	6.2.0		
cusparseZbsrxmv		12.2			hipsparseZbsrxmv	4.5.0	6.2.0		
cusparseZcsrmv		10.2		11.0	hipsparseZcsrmv	3.1.0	3.9.0		
cusparseZcsrmv_mp	8.0	10.2		11.0					
cusparseZcsrsv2_analysis		11.3		12.0	hipsparseZcsrsv2_analysis	3.1.0	5.6.0		
cusparseZcsrsv2_bufferSize		11.3		12.0	hipsparseZcsrsv2_bufferSize	3.1.0	5.6.0		
cusparseZcsrsv2_bufferSizeExt		11.3		12.0	hipsparseZcsrsv2_bufferSizeExt	3.1.0			
cusparseZcsrsv2_solve		11.3		12.0	hipsparseZcsrsv2_solve	3.1.0	5.6.0		
cusparseZcsrsv_analysis		10.2		11.0					
cusparseZcsrsv_solve		10.2		11.0					
cusparseZgemvi	7.5	12.8			hipsparseZgemvi	4.3.0			
cusparseZgemvi_bufferSize	7.5	12.8			hipsparseZgemvi_bufferSize	4.3.0			
cusparseZhybmv		10.2		11.0	hipsparseZhybmv	3.1.0	3.9.0		
cusparseZhybsv_analysis		10.2		11.0					
cusparseZhybsv_solve		10.2		11.0					

7.7.7 10. CUSPARSE Level 3 Function Reference

CUDA	A	D	C	R	HIP	A	D	C	R
cusparseCbsrmm		12.8			hipsparseCbsrmm	3.7.0			
cusparseCbsrsm2_analysis		12.2			hipsparseCbsrsm2_analysis	4.5.0	6.2.0		
cusparseCbsrsm2_bufferSize		12.2			hipsparseCbsrsm2_bufferSize	4.5.0	6.2.0		
cusparseCbsrsm2_bufferSizeExt		12.2							
cusparseCbsrsm2_solve		12.2			hipsparseCbsrsm2_solve	4.5.0	6.2.0		
cusparseCcsrmm		10.2		11.0	hipsparseCcsrmm	3.1.0	3.9.0		
cusparseCcsrmm2		10.2		11.0	hipsparseCcsrmm2	3.1.0	3.9.0		
cusparseCcsrsm2_analysis	9.2	11.3		12.0	hipsparseCcsrsm2_analysis	3.1.0	5.6.0		
cusparseCcsrsm2_bufferSizeExt	9.2	11.3		12.0	hipsparseCcsrsm2_bufferSizeExt	3.1.0	5.6.0		
cusparseCcsrsm2_solve	9.2	11.3		12.0	hipsparseCcsrsm2_solve	3.1.0	5.6.0		
cusparseCcsrsm_analysis		10.2		11.0					
cusparseCcsrsm_solve		10.2		11.0					

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CUDA	A	D	C	R	HIP	A	D	C	R
cusparseCgemmi	8.0	11.0		12.0	hipsparseCgemmi	3.7.0	3.9.0		
cusparseDbsrmm		12.8			hipsparseDbsrmm	3.7.0			
cusparseDbsrsm2_analysis		12.2			hipsparseDbsrsm2_analysis	4.5.0	6.2.0		
cusparseDbsrsm2_bufferSize		12.2			hipsparseDbsrsm2_bufferSize	4.5.0	6.2.0		
cusparseDbsrsm2_bufferSizeExt		12.2							
cusparseDbsrsm2_solve		12.2			hipsparseDbsrsm2_solve	4.5.0	6.2.0		
cusparseDcsrmm		10.2		11.0	hipsparseDcsrmm	1.9.2	3.9.0		
cusparseDcsrmm2		10.2		11.0	hipsparseDcsrmm2	1.9.2	3.9.0		
cusparseDcsrsm2_analysis	9.2	11.3		12.0	hipsparseDcsrsm2_analysis	3.1.0	5.6.0		
cusparseDcsrsm2_bufferSizeExt	9.2	11.3		12.0	hipsparseDcsrsm2_bufferSizeExt	3.1.0	5.6.0		
cusparseDcsrsm2_solve	9.2	11.3		12.0	hipsparseDcsrsm2_solve	3.1.0	5.6.0		
cusparseDcsrsm_analysis		10.2		11.0					
cusparseDcsrsm_solve		10.2		11.0					
cusparseDgemmi	8.0	11.0		12.0	hipsparseDgemmi	3.7.0	3.9.0		
cusparseSbsrmm		12.8			hipsparseSbsrmm	3.7.0			
cusparseSbsrsm2_analysis		12.2			hipsparseSbsrsm2_analysis	4.5.0	6.2.0		
cusparseSbsrsm2_bufferSize		12.2			hipsparseSbsrsm2_bufferSize	4.5.0	6.2.0		
cusparseSbsrsm2_bufferSizeExt		12.2							
cusparseSbsrsm2_solve		12.2			hipsparseSbsrsm2_solve	4.5.0	6.2.0		
cusparseScsrmm		10.2		11.0	hipsparseScsrmm	1.9.2	3.9.0		
cusparseScsrmm2		10.2		11.0	hipsparseScsrmm2	1.9.2	3.9.0		
cusparseScsrsm2_analysis	9.2	11.3		12.0	hipsparseScsrsm2_analysis	3.1.0	5.6.0		
cusparseScsrsm2_bufferSizeExt	9.2	11.3		12.0	hipsparseScsrsm2_bufferSizeExt	3.1.0	5.6.0		
cusparseScsrsm2_solve	9.2	11.3		12.0	hipsparseScsrsm2_solve	3.1.0	5.6.0		
cusparseScsrsm_analysis		10.2		11.0					
cusparseScsrsm_solve		10.2		11.0					
cusparseSgemmi	8.0	11.0		12.0	hipsparseSgemmi	3.7.0	3.9.0		
cusparseXbsrsm2_zeroPivot		12.2			hipsparseXbsrsm2_zeroPivot	4.5.0	6.2.0		
cusparseXcsrsm2_zeroPivot	9.2	11.3		12.0	hipsparseXcsrsm2_zeroPivot	3.1.0	5.6.0		
cusparseZbsrmm		12.8			hipsparseZbsrmm	3.7.0			
cusparseZbsrsm2_analysis		12.2			hipsparseZbsrsm2_analysis	4.5.0	6.2.0		
cusparseZbsrsm2_bufferSize		12.2			hipsparseZbsrsm2_bufferSize	4.5.0	6.2.0		
cusparseZbsrsm2_bufferSizeExt		12.2							
cusparseZbsrsm2_solve		12.2			hipsparseZbsrsm2_solve	4.5.0	6.2.0		
cusparseZcsrmm		10.2		11.0	hipsparseZcsrmm	3.1.0	3.9.0		
cusparseZcsrmm2		10.2		11.0	hipsparseZcsrmm2	3.1.0	3.9.0		
cusparseZcsrsm2_analysis	9.2	11.3		12.0	hipsparseZcsrsm2_analysis	3.1.0	5.6.0		
cusparseZcsrsm2_bufferSizeExt	9.2	11.3		12.0	hipsparseZcsrsm2_bufferSizeExt	3.1.0	5.6.0		
cusparseZcsrsm2_solve	9.2	11.3		12.0	hipsparseZcsrsm2_solve	3.1.0	5.6.0		
cusparseZcsrsm_analysis		10.2		11.0					
cusparseZcsrsm_solve		10.2		11.0					
cusparseZgemmi	8.0	11.0		12.0	hipsparseZgemmi	3.7.0	3.9.0		

7.7.8 11. CUSPARSE Extra Function Reference

CUDA	A	D	C	R	HIP	A	D	C	R	E
cusparseCcsrgeam		10.2		11.0	hipsparseCcsrgeam	3.5.0	3.9.0			
cusparseCcsrgeam2	10.0				hipsparseCcsrgeam2	3.5.0				
cusparseCcsrgeam2_buffe	10.0				hipsparseCcsrgeam2_buffe	3.5.0				
cusparseCcsrgemm		10.2		11.0	hipsparseCcsrgemm	3.1.0	3.9.0			
cusparseCcsrgemm2		11.0		12.0	hipsparseCcsrgemm2	3.1.0	3.9.0			
cusparseCcsrgemm2_buffe		11.0		12.0	hipsparseCcsrgemm2_buffe	3.1.0	3.9.0			
cusparseDcsrgeam		10.2		11.0	hipsparseDcsrgeam	3.5.0	3.9.0			
cusparseDcsrgeam2	10.0				hipsparseDcsrgeam2	3.5.0				
cusparseDcsrgeam2_buffe	10.0				hipsparseDcsrgeam2_buffe	3.5.0				
cusparseDcsrgemm		10.2		11.0	hipsparseDcsrgemm	2.8.0	3.9.0			
cusparseDcsrgemm2		11.0		12.0	hipsparseDcsrgemm2	2.8.0	3.9.0			
cusparseDcsrgemm2_buffe		11.0		12.0	hipsparseDcsrgemm2_buffe	2.8.0	3.9.0			
cusparseScsrgeam		10.2		11.0	hipsparseScsrgeam	3.5.0	3.9.0			
cusparseScsrgeam2	10.0				hipsparseScsrgeam2	3.5.0				
cusparseScsrgeam2_buffe	10.0				hipsparseScsrgeam2_buffe	3.5.0				
cusparseScsrgemm		10.2		11.0	hipsparseScsrgemm	2.8.0	3.9.0			
cusparseScsrgemm2		11.0		12.0	hipsparseScsrgemm2	2.8.0	3.9.0			
cusparseScsrgemm2_buffe		11.0		12.0	hipsparseScsrgemm2_buffe	2.8.0	3.9.0			
cusparseXcsrgeam2Nnz	10.0				hipsparseXcsrgeam2Nnz	3.5.0				
cusparseXcsrgeamNnz		10.2		11.0	hipsparseXcsrgeamNnz	3.5.0	3.9.0			
cusparseXcsrgemm2Nnz		11.0		12.0	hipsparseXcsrgemm2Nnz	2.8.0	3.9.0			
cusparseXcsrgemmNnz		10.2		11.0	hipsparseXcsrgemmNnz	2.8.0	3.9.0			
cusparseZcsrgeam		10.2		11.0	hipsparseZcsrgeam	3.5.0	3.9.0			
cusparseZcsrgeam2	10.0				hipsparseZcsrgeam2	3.5.0				
cusparseZcsrgeam2_buffe	10.0				hipsparseZcsrgeam2_buffe	3.5.0				
cusparseZcsrgemm		10.2		11.0	hipsparseZcsrgemm	3.1.0	3.9.0			
cusparseZcsrgemm2		11.0		12.0	hipsparseZcsrgemm2	3.1.0	3.9.0			
cusparseZcsrgemm2_buffe		11.0		12.0	hipsparseZcsrgemm2_buffe	3.1.0	3.9.0			

7.7.9 12. CUSPARSE Preconditioners Reference

CUDA	A	D	C	R	HIP
cusparseCbsric02		12.2			hipsparseCbsric02
cusparseCbsric02_analysis		12.2			hipsparseCbsric02_analysis
cusparseCbsric02_bufferSize		12.2			hipsparseCbsric02_bufferSize
cusparseCbsric02_bufferSizeExt		12.2			
cusparseCbsrilu02		12.2			hipsparseCbsrilu02
cusparseCbsrilu02_analysis		12.2			hipsparseCbsrilu02_analysis
cusparseCbsrilu02_bufferSize		12.2			hipsparseCbsrilu02_bufferSize
cusparseCbsrilu02_bufferSizeExt		12.2			
cusparseCbsrilu02_numericBoost		12.2			hipsparseCbsrilu02_numericBoost
cusparseCcsric0		10.2		11.0	
cusparseCcsric02		12.2			hipsparseCcsric02
cusparseCcsric02_analysis		12.2			hipsparseCcsric02_analysis
cusparseCcsric02_bufferSize		12.2			hipsparseCcsric02_bufferSize
cusparseCcsric02_bufferSizeExt		12.2			hipsparseCcsric02_bufferSizeExt
cusparseCcsrilu0		10.2		11.0	
cusparseCcsrilu02		12.2			hipsparseCcsrilu02
cusparseCcsrilu02_analysis		12.2			hipsparseCcsrilu02_analysis
cusparseCcsrilu02_bufferSize		12.2			hipsparseCcsrilu02_bufferSize
cusparseCcsrilu02_bufferSizeExt		12.2			hipsparseCcsrilu02_bufferSizeExt
cusparseCcsrilu02_numericBoost		12.2			hipsparseCcsrilu02_numericBoost
cusparseCgpsvInterleavedBatch	9.2				hipsparseCgpsvInterleavedBatch
cusparseCgpsvInterleavedBatch_bufferSizeExt	9.2				hipsparseCgpsvInterleavedBatch_buffer
cusparseCgtsv		10.2		11.0	
cusparseCgtsv2	9.0				hipsparseCgtsv2
cusparseCgtsv2StridedBatch	9.0				hipsparseCgtsv2StridedBatch
cusparseCgtsv2StridedBatch_bufferSizeExt	9.0				hipsparseCgtsv2StridedBatch_bufferSiz
cusparseCgtsv2_bufferSizeExt	9.0				hipsparseCgtsv2_bufferSizeExt
cusparseCgtsv2_nopivot	9.0				hipsparseCgtsv2_nopivot
cusparseCgtsv2_nopivot_bufferSizeExt	9.0				hipsparseCgtsv2_nopivot_bufferSizeExt
cusparseCgtsvInterleavedBatch	9.2				hipsparseCgtsvInterleavedBatch
cusparseCgtsvInterleavedBatch_bufferSizeExt	9.2				hipsparseCgtsvInterleavedBatch_buffer
cusparseCgtsvStridedBatch		10.2		11.0	
cusparseCgtsv_nopivot		10.2		11.0	
cusparseCsrilu0Ex	8.0	10.2		11.0	
cusparseDbsric02		12.2			hipsparseDbsric02
cusparseDbsric02_analysis		12.2			hipsparseDbsric02_analysis
cusparseDbsric02_bufferSize		12.2			hipsparseDbsric02_bufferSize
cusparseDbsric02_bufferSizeExt		12.2			
cusparseDbsrilu02		12.2			hipsparseDbsrilu02
cusparseDbsrilu02_analysis		12.2			hipsparseDbsrilu02_analysis
cusparseDbsrilu02_bufferSize		12.2			hipsparseDbsrilu02_bufferSize
cusparseDbsrilu02_bufferSizeExt		12.2			
cusparseDbsrilu02_numericBoost		12.2			hipsparseDbsrilu02_numericBoost
cusparseDcsric0		10.2		11.0	
cusparseDcsric02		12.2			hipsparseDcsric02
cusparseDcsric02_analysis		12.2			hipsparseDcsric02_analysis
cusparseDcsric02_bufferSize		12.2			hipsparseDcsric02_bufferSize
cusparseDcsric02_bufferSizeExt		12.2			hipsparseDcsric02_bufferSizeExt
cusparseDcsrilu0		10.2		11.0	

Table 7.25 – continued from previous page

CUDA	A	D	C	R	HIP
cusparseDcsrilu02		12.2			hipsparseDcsrilu02
cusparseDcsrilu02_analysis		12.2			hipsparseDcsrilu02_analysis
cusparseDcsrilu02_bufferSize		12.2			hipsparseDcsrilu02_bufferSize
cusparseDcsrilu02_bufferSizeExt		12.2			hipsparseDcsrilu02_bufferSizeExt
cusparseDcsrilu02_numericBoost		12.2			hipsparseDcsrilu02_numericBoost
cusparseDgpsvInterleavedBatch	9.2				hipsparseDgpsvInterleavedBatch
cusparseDgpsvInterleavedBatch_bufferSizeExt	9.2				hipsparseDgpsvInterleavedBatch_buffer
cusparseDgtsv		10.2		11.0	
cusparseDgtsv2	9.0				hipsparseDgtsv2
cusparseDgtsv2StridedBatch	9.0				hipsparseDgtsv2StridedBatch
cusparseDgtsv2StridedBatch_bufferSizeExt	9.0				hipsparseDgtsv2StridedBatch_bufferSiz
cusparseDgtsv2_bufferSizeExt	9.0				hipsparseDgtsv2_bufferSizeExt
cusparseDgtsv2_nopivot	9.0				hipsparseDgtsv2_nopivot
cusparseDgtsv2_nopivot_bufferSizeExt	9.0				hipsparseDgtsv2_nopivot_bufferSizeExt
cusparseDgtsvInterleavedBatch	9.2				hipsparseDgtsvInterleavedBatch
cusparseDgtsvInterleavedBatch_bufferSizeExt	9.2				hipsparseDgtsvInterleavedBatch_buffer
cusparseDgtsvStridedBatch		10.2		11.0	
cusparseDgtsv_nopivot		10.2		11.0	
cusparseSbsric02		12.2			hipsparseSbsric02
cusparseSbsric02_analysis		12.2			hipsparseSbsric02_analysis
cusparseSbsric02_bufferSize		12.2			hipsparseSbsric02_bufferSize
cusparseSbsric02_bufferSizeExt		12.2			
cusparseSbsrilu02		12.2			hipsparseSbsrilu02
cusparseSbsrilu02_analysis		12.2			hipsparseSbsrilu02_analysis
cusparseSbsrilu02_bufferSize		12.2			hipsparseSbsrilu02_bufferSize
cusparseSbsrilu02_bufferSizeExt		12.2			
cusparseSbsrilu02_numericBoost		12.2			hipsparseSbsrilu02_numericBoost
cusparseScsric0		10.2		11.0	
cusparseScsric02		12.2			hipsparseScsric02
cusparseScsric02_analysis		12.2			hipsparseScsric02_analysis
cusparseScsric02_bufferSize		12.2			hipsparseScsric02_bufferSize
cusparseScsric02_bufferSizeExt		12.2			hipsparseScsric02_bufferSizeExt
cusparseScsrilu0		10.2		11.0	
cusparseScsrilu02		12.2			hipsparseScsrilu02
cusparseScsrilu02_analysis		12.2			hipsparseScsrilu02_analysis
cusparseScsrilu02_bufferSize		12.2			hipsparseScsrilu02_bufferSize
cusparseScsrilu02_bufferSizeExt		12.2			hipsparseScsrilu02_bufferSizeExt
cusparseScsrilu02_numericBoost		12.2			hipsparseScsrilu02_numericBoost
cusparseSgpsvInterleavedBatch	9.2				hipsparseSgpsvInterleavedBatch
cusparseSgpsvInterleavedBatch_bufferSizeExt	9.2				hipsparseSgpsvInterleavedBatch_buffer
cusparseSgtsv		10.2		11.0	
cusparseSgtsv2	9.0				hipsparseSgtsv2
cusparseSgtsv2StridedBatch	9.0				hipsparseSgtsv2StridedBatch
cusparseSgtsv2StridedBatch_bufferSizeExt	9.0				hipsparseSgtsv2StridedBatch_bufferSiz
cusparseSgtsv2_bufferSizeExt	9.0				hipsparseSgtsv2_bufferSizeExt
cusparseSgtsv2_nopivot	9.0				hipsparseSgtsv2_nopivot
cusparseSgtsv2_nopivot_bufferSizeExt	9.0				hipsparseSgtsv2_nopivot_bufferSizeExt
cusparseSgtsvInterleavedBatch	9.2				hipsparseSgtsvInterleavedBatch
cusparseSgtsvInterleavedBatch_bufferSizeExt	9.2				hipsparseSgtsvInterleavedBatch_buffer
cusparseSgtsvStridedBatch		10.2		11.0	

Table 7.25 – continued from previous page

CUDA	A	D	C	R	HIP
cusparseSgtsv_nopivot		10.2		11.0	
cusparseXbsric02_zeroPivot		12.2			hipsparseXbsric02_zeroPivot
cusparseXbsrilu02_zeroPivot		12.2			hipsparseXbsrilu02_zeroPivot
cusparseXcsric02_zeroPivot		12.2			hipsparseXcsric02_zeroPivot
cusparseXcsrilu02_zeroPivot		12.2			hipsparseXcsrilu02_zeroPivot
cusparseZbsric02		12.2			hipsparseZbsric02
cusparseZbsric02_analysis		12.2			hipsparseZbsric02_analysis
cusparseZbsric02_bufferSize		12.2			hipsparseZbsric02_bufferSize
cusparseZbsric02_bufferSizeExt		12.2			
cusparseZbsrilu02		12.2			hipsparseZbsrilu02
cusparseZbsrilu02_analysis		12.2			hipsparseZbsrilu02_analysis
cusparseZbsrilu02_bufferSize		12.2			hipsparseZbsrilu02_bufferSize
cusparseZbsrilu02_bufferSizeExt		12.2			
cusparseZbsrilu02_numericBoost		12.2			hipsparseZbsrilu02_numericBoost
cusparseZcsric0		10.2		11.0	
cusparseZcsric02		12.2			hipsparseZcsric02
cusparseZcsric02_analysis		12.2			hipsparseZcsric02_analysis
cusparseZcsric02_bufferSize		12.2			hipsparseZcsric02_bufferSize
cusparseZcsric02_bufferSizeExt		12.2			hipsparseZcsric02_bufferSizeExt
cusparseZcsrilu0		10.2		11.0	
cusparseZcsrilu02		12.2			hipsparseZcsrilu02
cusparseZcsrilu02_analysis		12.2			hipsparseZcsrilu02_analysis
cusparseZcsrilu02_bufferSize		12.2			hipsparseZcsrilu02_bufferSize
cusparseZcsrilu02_bufferSizeExt		12.2			hipsparseZcsrilu02_bufferSizeExt
cusparseZcsrilu02_numericBoost		12.2			hipsparseZcsrilu02_numericBoost
cusparseZgpsvInterleavedBatch	9.2				hipsparseZgpsvInterleavedBatch
cusparseZgpsvInterleavedBatch_bufferSizeExt	9.2				hipsparseZgpsvInterleavedBatch_buffer
cusparseZgtsv		10.2		11.0	
cusparseZgtsv2	9.0				hipsparseZgtsv2
cusparseZgtsv2StridedBatch	9.0				hipsparseZgtsv2StridedBatch
cusparseZgtsv2StridedBatch_bufferSizeExt	9.0				hipsparseZgtsv2StridedBatch_bufferSiz
cusparseZgtsv2_bufferSizeExt	9.0				hipsparseZgtsv2_bufferSizeExt
cusparseZgtsv2_nopivot	9.0				hipsparseZgtsv2_nopivot
cusparseZgtsv2_nopivot_bufferSizeExt	9.0				hipsparseZgtsv2_nopivot_bufferSizeExt
cusparseZgtsvInterleavedBatch	9.2				hipsparseZgtsvInterleavedBatch
cusparseZgtsvInterleavedBatch_bufferSizeExt	9.2				hipsparseZgtsvInterleavedBatch_buffer
cusparseZgtsvStridedBatch		10.2		11.0	
cusparseZgtsv_nopivot		10.2		11.0	

7.7.10 13. CUSPARSE Reorderings Reference

CUDA	A	D	C	R	HIP	A	D	C	R	E
cusparseCcsrcolor		12.2			hipsparseCcsrcolor	4.5.0	6.2.0			
cusparseDcsrcolor		12.2			hipsparseDcsrcolor	4.5.0	6.2.0			
cusparseScsrcolor		12.2			hipsparseScsrcolor	4.5.0	6.2.0			
cusparseZcsrcolor		12.2			hipsparseZcsrcolor	4.5.0	6.2.0			

7.7.11 14. CUSPARSE Format Conversion Reference

CUDA	A	D	C	R	HIP
cusparseCbsr2csr		12.8			hipsparseCbsr2csr
cusparseCcsc2dense		11.1		12.0	hipsparseCcsc2dense
cusparseCcsc2hyb		10.2		11.0	
cusparseCcsr2bsr		12.4			hipsparseCcsr2bsr
cusparseCcsr2csc		10.2		11.0	hipsparseCcsr2csc
cusparseCcsr2csr_compress	8.0	12.2			hipsparseCcsr2csr_compress
cusparseCcsr2csru		12.2			hipsparseCcsr2csru
cusparseCcsr2dense		11.1		12.0	hipsparseCcsr2dense
cusparseCcsr2gebsr					hipsparseCcsr2gebsr
cusparseCcsr2gebsr_bufferSize					hipsparseCcsr2gebsr_bufferSize
cusparseCcsr2gebsr_bufferSizeExt					
cusparseCcsr2hyb		10.2		11.0	hipsparseCcsr2hyb
cusparseCcsru2csr		12.2			hipsparseCcsru2csr
cusparseCcsru2csr_bufferSizeExt		12.2			hipsparseCcsru2csr_bufferSizeEx
cusparseCdense2csc		11.1		12.0	hipsparseCdense2csc
cusparseCdense2csr		11.1		12.0	hipsparseCdense2csr
cusparseCdense2hyb		10.2		11.0	
cusparseCgebsr2csr		12.4			hipsparseCgebsr2csr
cusparseCgebsr2gebsc					hipsparseCgebsr2gebsc
cusparseCgebsr2gebsc_bufferSize					hipsparseCgebsr2gebsc_bufferSi
cusparseCgebsr2gebsc_bufferSizeExt					
cusparseCgebsr2gebsr		12.8			hipsparseCgebsr2gebsr
cusparseCgebsr2gebsr_bufferSize		12.8			hipsparseCgebsr2gebsr_bufferSi
cusparseCgebsr2gebsr_bufferSizeExt		12.8			
cusparseChyb2csc		10.2		11.0	
cusparseChyb2csr		10.2		11.0	hipsparseChyb2csr
cusparseChyb2dense		10.2		11.0	
cusparseCnnz					hipsparseCnnz
cusparseCnnz_compress	8.0	12.2			hipsparseCnnz_compress
cusparseCreateCsru2csrInfo		12.2			hipsparseCreateCsru2csrInfo
cusparseCreateIdentityPermutation		12.2			hipsparseCreateIdentityPermuta
cusparseCsr2cscEx	8.0	10.2		11.0	
cusparseCsr2cscEx2	10.1				hipsparseCsr2cscEx2
cusparseCsr2cscEx2_bufferSize	10.1				hipsparseCsr2cscEx2_bufferSize
cusparseDbsr2csr		12.8			hipsparseDbsr2csr

Table 7.26 – continued from previous page

CUDA	A	D	C	R	HIP
cusparseDcsc2dense		11.1		12.0	hipsparseDcsc2dense
cusparseDcsc2hyb		10.2		11.0	
cusparseDcsr2bsr		12.4			hipsparseDcsr2bsr
cusparseDcsr2csc		10.2		11.0	hipsparseDcsr2csc
cusparseDcsr2csr_compress	8.0	12.2			hipsparseDcsr2csr_compress
cusparseDcsr2csru		12.2			hipsparseDcsr2csru
cusparseDcsr2dense		11.1		12.0	hipsparseDcsr2dense
cusparseDcsr2gebsr					hipsparseDcsr2gebsr
cusparseDcsr2gebsr_bufferSize					hipsparseDcsr2gebsr_bufferSize
cusparseDcsr2gebsr_bufferSizeExt					
cusparseDcsr2hyb		10.2		11.0	hipsparseDcsr2hyb
cusparseDcsru2csr		12.2			hipsparseDcsru2csr
cusparseDcsru2csr_bufferSizeExt		12.2			hipsparseDcsru2csr_bufferSizeE
cusparseDdense2csc		11.1		12.0	hipsparseDdense2csc
cusparseDdense2csr		11.1		12.0	hipsparseDdense2csr
cusparseDdense2hyb		10.2		11.0	
cusparseDestroyCsru2csrInfo		12.2			hipsparseDestroyCsru2csrInfo
cusparseDgebsr2csr		12.4			hipsparseDgebsr2csr
cusparseDgebsr2gebsc					hipsparseDgebsr2gebsc
cusparseDgebsr2gebsc_bufferSize					hipsparseDgebsr2gebsc_bufferSi
cusparseDgebsr2gebsc_bufferSizeExt					
cusparseDgebsr2gebsr		12.8			hipsparseDgebsr2gebsr
cusparseDgebsr2gebsr_bufferSize		12.8			hipsparseDgebsr2gebsr_bufferSi
cusparseDgebsr2gebsr_bufferSizeExt		12.8			
cusparseDhyb2csc		10.2		11.0	
cusparseDhyb2csr		10.2		11.0	hipsparseDhyb2csr
cusparseDhyb2dense		10.2		11.0	
cusparseDnnz					hipsparseDnnz
cusparseDnnz_compress	8.0	12.2			hipsparseDnnz_compress
cusparseDpruneCsr2csr	9.0	12.2			hipsparseDpruneCsr2csr
cusparseDpruneCsr2csrByPercentage	9.0	12.2			hipsparseDpruneCsr2csrByPercen
cusparseDpruneCsr2csrByPercentage_bufferSizeExt	9.0	12.2			hipsparseDpruneCsr2csrByPercen
cusparseDpruneCsr2csrNnz	9.0	12.2			hipsparseDpruneCsr2csrNnz
cusparseDpruneCsr2csrNnzByPercentage	9.0	12.2			hipsparseDpruneCsr2csrNnzByPer
cusparseDpruneCsr2csr_bufferSizeExt	9.0	12.2			hipsparseDpruneCsr2csr_bufferS
cusparseDpruneDense2csr	9.0	12.2			hipsparseDpruneDense2csr
cusparseDpruneDense2csrByPercentage	9.0	12.2			hipsparseDpruneDense2csrByPerc
cusparseDpruneDense2csrByPercentage_bufferSizeExt	9.0	12.2			hipsparseDpruneDense2csrByPerc
cusparseDpruneDense2csrNnz	9.0	12.2			hipsparseDpruneDense2csrNnz
cusparseDpruneDense2csrNnzByPercentage	9.0	12.2			hipsparseDpruneDense2csrNnzByP
cusparseDpruneDense2csr_bufferSizeExt	9.0	12.2			hipsparseDpruneDense2csr_buffe
cusparseHpruneCsr2csr	9.0	12.2			
cusparseHpruneCsr2csrByPercentage	9.0	12.2			
cusparseHpruneCsr2csrByPercentage_bufferSizeExt	9.0	12.2			
cusparseHpruneCsr2csrNnz	9.0	12.2			
cusparseHpruneCsr2csrNnzByPercentage	9.0	12.2			
cusparseHpruneCsr2csr_bufferSizeExt	9.0	12.2			
cusparseHpruneDense2csr	9.0	12.2			
cusparseHpruneDense2csrByPercentage	9.0	12.2			
cusparseHpruneDense2csrByPercentage_bufferSizeExt	9.0	12.2			

Table 7.26 – continued from previous page

CUDA	A	D	C	R	HIP
cusparseHpruneDense2csrNnz	9.0	12.2			
cusparseHpruneDense2csrNnzByPercentage	9.0	12.2			
cusparseHpruneDense2csr_bufferSizeExt	9.0	12.2			
cusparseSbsr2csr		12.8			hipsparseSbsr2csr
cusparseScsc2dense		11.1		12.0	hipsparseScsc2dense
cusparseScsc2hyb		10.2		11.0	
cusparseScsr2bsr		12.4			hipsparseScsr2bsr
cusparseScsr2csc		10.2		11.0	hipsparseScsr2csc
cusparseScsr2csr_compress	8.0	12.2			hipsparseScsr2csr_compress
cusparseScsr2csru		12.2			hipsparseScsr2csru
cusparseScsr2dense		11.1		12.0	hipsparseScsr2dense
cusparseScsr2gebsr					hipsparseScsr2gebsr
cusparseScsr2gebsr_bufferSize					hipsparseScsr2gebsr_bufferSize
cusparseScsr2gebsr_bufferSizeExt					
cusparseScsr2hyb		10.2		11.0	hipsparseScsr2hyb
cusparseScsru2csr		12.2			hipsparseScsru2csr
cusparseScsru2csr_bufferSizeExt		12.2			hipsparseScsru2csr_bufferSizeE
cusparseSdense2csc		11.1		12.0	hipsparseSdense2csc
cusparseSdense2csr		11.1		12.0	hipsparseSdense2csr
cusparseSdense2hyb		10.2		11.0	
cusparseSgebsr2csr		12.4			hipsparseSgebsr2csr
cusparseSgebsr2gebsc					hipsparseSgebsr2gebsc
cusparseSgebsr2gebsc_bufferSize					hipsparseSgebsr2gebsc_bufferSi
cusparseSgebsr2gebsc_bufferSizeExt					
cusparseSgebsr2gebsr		12.8			hipsparseSgebsr2gebsr
cusparseSgebsr2gebsr_bufferSize		12.8			hipsparseSgebsr2gebsr_bufferSi
cusparseSgebsr2gebsr_bufferSizeExt		12.8			
cusparseShyb2csc		10.2		11.0	
cusparseShyb2csr		10.2		11.0	hipsparseShyb2csr
cusparseShyb2dense		10.2		11.0	
cusparseSnnz					hipsparseSnnz
cusparseSnnz_compress	8.0	12.2			hipsparseSnnz_compress
cusparseSpruneCsr2csr	9.0	12.2			hipsparseSpruneCsr2csr
cusparseSpruneCsr2csrByPercentage	9.0	12.2			hipsparseSpruneCsr2csrByPercen
cusparseSpruneCsr2csrByPercentage_bufferSizeExt	9.0	12.2			hipsparseSpruneCsr2csrByPercen
cusparseSpruneCsr2csrNnz	9.0	12.2			hipsparseSpruneCsr2csrNnz
cusparseSpruneCsr2csrNnzByPercentage	9.0	12.2			hipsparseSpruneCsr2csrNnzByPer
cusparseSpruneCsr2csr_bufferSizeExt	9.0	12.2			hipsparseSpruneCsr2csr_bufferS
cusparseSpruneDense2csr	9.0	12.2			hipsparseSpruneDense2csr
cusparseSpruneDense2csrByPercentage	9.0	12.2			hipsparseSpruneDense2csrByPerc
cusparseSpruneDense2csrByPercentage_bufferSizeExt	9.0	12.2			hipsparseSpruneDense2csrByPerc
cusparseSpruneDense2csrNnz	9.0	12.2			hipsparseSpruneDense2csrNnz
cusparseSpruneDense2csrNnzByPercentage	9.0	12.2			hipsparseSpruneDense2csrNnzByP
cusparseSpruneDense2csr_bufferSizeExt	9.0	12.2			hipsparseSpruneDense2csr_buffe
cusparseXcoo2csr					hipsparseXcoo2csr
cusparseXcoosortByColumn					hipsparseXcoosortByColumn
cusparseXcoosortByRow					hipsparseXcoosortByRow
cusparseXcoosort_bufferSizeExt					hipsparseXcoosort_bufferSizeEx
cusparseXcscsort					hipsparseXcscsort
cusparseXcscsort_bufferSizeExt					hipsparseXcscsort_bufferSizeEx

Table 7.26 – continued from previous page

CUDA	A	D	C	R	HIP
cusparseXcsr2bsrNnz		12.4			hipsparseXcsr2bsrNnz
cusparseXcsr2coo					hipsparseXcsr2coo
cusparseXcsr2gebsrNnz					hipsparseXcsr2gebsrNnz
cusparseXcsrsort					hipsparseXcsrsort
cusparseXcsrsort_bufferSizeExt					hipsparseXcsrsort_bufferSizeEx
cusparseXgebsr2csr		12.4			
cusparseXgebsr2gebsrNnz		12.8			hipsparseXgebsr2gebsrNnz
cusparseZbsr2csr		12.8			hipsparseZbsr2csr
cusparseZcsc2dense		11.1		12.0	hipsparseZcsc2dense
cusparseZcsc2hyb		10.2		11.0	
cusparseZcsr2bsr		12.4			hipsparseZcsr2bsr
cusparseZcsr2csc		10.2		11.0	hipsparseZcsr2csc
cusparseZcsr2csr_compress	8.0	12.2			hipsparseZcsr2csr_compress
cusparseZcsr2csru		12.2			hipsparseZcsr2csru
cusparseZcsr2dense		11.1		12.0	hipsparseZcsr2dense
cusparseZcsr2gebsr					hipsparseZcsr2gebsr
cusparseZcsr2gebsr_bufferSize					hipsparseZcsr2gebsr_bufferSize
cusparseZcsr2gebsr_bufferSizeExt					
cusparseZcsr2hyb		10.2		11.0	hipsparseZcsr2hyb
cusparseZcsru2csr		12.2			hipsparseZcsru2csr
cusparseZcsru2csr_bufferSizeExt		12.2			hipsparseZcsru2csr_bufferSizeE
cusparseZdense2csc		11.1		12.0	hipsparseZdense2csc
cusparseZdense2csr		11.1		12.0	hipsparseZdense2csr
cusparseZdense2hyb		10.2		11.0	
cusparseZgebsr2csr		12.4			hipsparseZgebsr2csr
cusparseZgebsr2gebsc					hipsparseZgebsr2gebsc
cusparseZgebsr2gebsc_bufferSize					hipsparseZgebsr2gebsc_bufferSi
cusparseZgebsr2gebsc_bufferSizeExt					
cusparseZgebsr2gebsr		12.8			hipsparseZgebsr2gebsr
cusparseZgebsr2gebsr_bufferSize		12.8			hipsparseZgebsr2gebsr_bufferSi
cusparseZgebsr2gebsr_bufferSizeExt		12.8			
cusparseZhyb2csc		10.2		11.0	
cusparseZhyb2csr		10.2		11.0	hipsparseZhyb2csr
cusparseZhyb2dense		10.2		11.0	
cusparseZnnz					hipsparseZnnz
cusparseZnnz_compress	8.0	12.2			hipsparseZnnz_compress

7.7.12 15. CUSPARSE Generic API Reference

CUDA	A	D	C	R	HIP	A
cusparseAxpby	11.0	12.8	12.0		hipsparseAxpby	4.1.0
cusparseBlockedEllGet	11.2				hipsparseBlockedEllGet	4.5.0
cusparseBsrSetStridedBatch	12.1					
cusparseConstBlockedEllGet	12.0				hipsparseConstBlockedEllGet	6.0.0
cusparseConstCooGet	12.0				hipsparseConstCooGet	6.0.0
cusparseConstCscGet	12.0				hipsparseConstCscGet	6.2.0
cusparseConstCsrGet	12.0				hipsparseConstCsrGet	6.0.0
cusparseConstDnMatGet	12.0				hipsparseConstDnMatGet	6.0.0
cusparseConstDnMatGetValues	12.0				hipsparseConstDnMatGetValues	6.0.0

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Table 7.27 – continued from previous page

CUDA	A	D	C	R	HIP	A
cusparseConstDnVecGet	12.0				hipsparseConstDnVecGet	6.0.0
cusparseConstDnVecGetValues	12.0				hipsparseConstDnVecGetValues	6.0.0
cusparseConstSpMatGetValues	12.0				hipsparseConstSpMatGetValues	6.0.0
cusparseConstSpVecGet	12.0				hipsparseConstSpVecGet	6.0.0
cusparseConstSpVecGetValues	12.0				hipsparseConstSpVecGetValues	6.0.0
cusparseConstrainedGeMM	10.2	11.2		12.0		
cusparseConstrainedGeMM_bufferSize	10.2	11.2		12.0		
cusparseCooAoSGet	10.2	11.2		12.0	hipsparseCooAoSGet	4.1.0
cusparseCooGet	10.1				hipsparseCooGet	4.1.0
cusparseCooSetPointers	11.1				hipsparseCooSetPointers	4.2.0
cusparseCooSetStridedBatch	11.0				hipsparseCooSetStridedBatch	5.2.0
cusparseCreateBlockedEll	11.2				hipsparseCreateBlockedEll	4.5.0
cusparseCreateBsr	12.1					
cusparseCreateConstBlockedEll	12.0				hipsparseCreateConstBlockedEll	6.0.0
cusparseCreateConstBsr	12.1					
cusparseCreateConstCoo	12.0				hipsparseCreateConstCoo	6.0.0
cusparseCreateConstCsc	12.0				hipsparseCreateConstCsc	6.0.0
cusparseCreateConstCsr	12.0				hipsparseCreateConstCsr	6.0.0
cusparseCreateConstDnMat	12.0				hipsparseCreateConstDnMat	6.0.0
cusparseCreateConstDnVec	12.0				hipsparseCreateConstDnVec	6.0.0
cusparseCreateConstSlicedEll	12.1					
cusparseCreateConstSpVec	12.0				hipsparseCreateConstSpVec	6.0.0
cusparseCreateCoo	10.1				hipsparseCreateCoo	4.1.0
cusparseCreateCooAoS	10.2	11.2		12.0	hipsparseCreateCooAoS	4.1.0
cusparseCreateCsc	11.1				hipsparseCreateCsc	4.2.0
cusparseCreateCsr	10.2				hipsparseCreateCsr	4.1.0
cusparseCreateDnMat	10.1				hipsparseCreateDnMat	4.2.0
cusparseCreateDnVec	10.2				hipsparseCreateDnVec	4.1.0
cusparseCreateSlicedEll	12.1					
cusparseCreateSpVec	10.2				hipsparseCreateSpVec	4.1.0
cusparseCscGet	11.7				hipsparseCscGet	6.2.0
cusparseCscSetPointers	11.1				hipsparseCscSetPointers	4.2.0
cusparseCsrGet	10.2				hipsparseCsrGet	4.1.0
cusparseCsrSetPointers	11.0				hipsparseCsrSetPointers	4.1.0
cusparseCsrSetStridedBatch	11.0				hipsparseCsrSetStridedBatch	5.2.0
cusparseDenseToSparse_analysis	11.1		12.0		hipsparseDenseToSparse_analysis	4.2.0
cusparseDenseToSparse_bufferSize	11.1		12.0		hipsparseDenseToSparse_bufferSize	4.2.0
cusparseDenseToSparse_convert	11.1		12.0		hipsparseDenseToSparse_convert	4.2.0
cusparseDestroyDnMat	10.1		12.0		hipsparseDestroyDnMat	4.2.0
cusparseDestroyDnVec	10.2		12.0		hipsparseDestroyDnVec	4.1.0
cusparseDestroySpMat	10.1		12.0		hipsparseDestroySpMat	4.1.0
cusparseDestroySpVec	10.2		12.0		hipsparseDestroySpVec	4.1.0
cusparseDnMatGet	10.1				hipsparseDnMatGet	4.2.0
cusparseDnMatGetStridedBatch	10.1		12.0		hipsparseDnMatGetStridedBatch	5.2.0
cusparseDnMatGetValues	10.2				hipsparseDnMatGetValues	4.2.0
cusparseDnMatSetStridedBatch	10.1				hipsparseDnMatSetStridedBatch	5.2.0
cusparseDnMatSetValues	10.2				hipsparseDnMatSetValues	4.2.0
cusparseDnVecGet	10.2				hipsparseDnVecGet	4.1.0
cusparseDnVecGetValues	10.2				hipsparseDnVecGetValues	4.1.0
cusparseDnVecSetValues	10.2				hipsparseDnVecSetValues	4.1.0

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Table 7.27 – continued from previous page

CUDA	A	D	C	R	HIP	A
cusparseGather	11.0		12.0		hipsparseGather	4.1.0
cusparseRot	11.0	12.2			hipsparseRot	4.1.0
cusparseSDDMM	11.2		12.0		hipsparseSDDMM	4.3.0
cusparseSDDMM_bufferSize	11.2		12.0		hipsparseSDDMM_bufferSize	4.3.0
cusparseSDDMM_preprocess	11.2		12.0		hipsparseSDDMM_preprocess	4.3.0
cusparseScatter	11.0		12.0		hipsparseScatter	4.1.0
cusparseSpGEMM_compute	11.0		12.0		hipsparseSpGEMM_compute	4.1.0
cusparseSpGEMM_copy	11.0		12.0		hipsparseSpGEMM_copy	4.1.0
cusparseSpGEMM_createDescr	11.0				hipsparseSpGEMM_createDescr	4.1.0
cusparseSpGEMM_destroyDescr	11.0				hipsparseSpGEMM_destroyDescr	4.1.0
cusparseSpGEMM_estimateMemory	12.0					
cusparseSpGEMM_getNumProducts	12.0					
cusparseSpGEMM_workEstimation	11.0		12.0		hipsparseSpGEMM_workEstimation	4.1.0
cusparseSpGEMMreuse_compute	11.3		12.0		hipsparseSpGEMMreuse_compute	5.1.0
cusparseSpGEMMreuse_copy	11.3		12.0		hipsparseSpGEMMreuse_copy	5.1.0
cusparseSpGEMMreuse_nnz	11.3		12.0		hipsparseSpGEMMreuse_nnz	5.1.0
cusparseSpGEMMreuse_workEstimation	11.3		12.0		hipsparseSpGEMMreuse_workEstimation	5.1.0
cusparseSpMM	10.1		12.0		hipsparseSpMM	4.2.0
cusparseSpMMOp	11.5					
cusparseSpMMOp_createPlan	11.5					
cusparseSpMMOp_destroyPlan	11.5					
cusparseSpMM_bufferSize	10.1		12.0		hipsparseSpMM_bufferSize	4.2.0
cusparseSpMM_preprocess	11.2		12.0		hipsparseSpMM_preprocess	4.5.0
cusparseSpMV	10.1		12.0		hipsparseSpMV	4.1.0
cusparseSpMV_bufferSize	10.1		12.0		hipsparseSpMV_bufferSize	4.1.0
cusparseSpMV_preprocess	12.4				hipsparseSpMV_preprocess	5.2.0
cusparseSpMatGetAttribute	11.3		12.0		hipsparseSpMatGetAttribute	4.5.0
cusparseSpMatGetFormat	10.1		12.0		hipsparseSpMatGetFormat	4.1.0
cusparseSpMatGetIndexBase	10.1		12.0		hipsparseSpMatGetIndexBase	4.1.0
cusparseSpMatGetNumBatches	10.1			10.2		
cusparseSpMatGetSize	11.0		12.0		hipsparseSpMatGetSize	4.1.0
cusparseSpMatGetStridedBatch	10.2		12.0		hipsparseSpMatGetStridedBatch	5.2.0
cusparseSpMatGetValues	10.2				hipsparseSpMatGetValues	4.1.0
cusparseSpMatSetAttribute	11.3				hipsparseSpMatSetAttribute	4.5.0
cusparseSpMatSetNumBatches	10.1			10.2		
cusparseSpMatSetStridedBatch	10.2			12.0	hipsparseSpMatSetStridedBatch	5.2.0
cusparseSpMatSetValues	10.2				hipsparseSpMatSetValues	4.1.0
cusparseSpSM_analysis	11.3		12.0		hipsparseSpSM_analysis	4.5.0
cusparseSpSM_bufferSize	11.3		12.0		hipsparseSpSM_bufferSize	4.5.0
cusparseSpSM_createDescr	11.3				hipsparseSpSM_createDescr	4.5.0
cusparseSpSM_destroyDescr	11.3				hipsparseSpSM_destroyDescr	4.5.0
cusparseSpSM_solve	11.3		12.0		hipsparseSpSM_solve	4.5.0
cusparseSpSM_updateMatrix	12.4					
cusparseSpSV_analysis	11.3		12.0		hipsparseSpSV_analysis	4.5.0
cusparseSpSV_bufferSize	11.3		12.0		hipsparseSpSV_bufferSize	4.5.0
cusparseSpSV_createDescr	11.3				hipsparseSpSV_createDescr	4.5.0
cusparseSpSV_destroyDescr	11.3				hipsparseSpSV_destroyDescr	4.5.0
cusparseSpSV_solve	11.3		12.0		hipsparseSpSV_solve	4.5.0
cusparseSpSV_updateMatrix	12.1					
cusparseSpVV	10.1	12.8	12.0		hipsparseSpVV	4.1.0

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Table 7.27 – continued from previous page

CUDA	A	D	C	R	HIP	A
cusparseSpVV_bufferSize	10.1	12.8	12.0		hipsparseSpVV_bufferSize	4.1.0
cusparseSpVecGet	10.2				hipsparseSpVecGet	4.1.0
cusparseSpVecGetIndexBase	10.2		12.0		hipsparseSpVecGetIndexBase	4.1.0
cusparseSpVecGetValues	10.2				hipsparseSpVecGetValues	4.1.0
cusparseSpVecSetValues	10.2				hipsparseSpVecSetValues	4.1.0
cusparseSparseToDense	11.1		12.0		hipsparseSparseToDense	4.2.0
cusparseSparseToDense_bufferSize	11.1		12.0		hipsparseSparseToDense_bufferSize	4.2.0

7.8 CUSOLVER API supported by HIP

Note: In the tables that follow the columns marked A, D, C, R, and E mean the following: **A** - Added; **D** - Deprecated; **C** - Changed; **R** - Removed; **E** - Experimental

7.8.1 1. CUSOLVER Data types

CUDA	A	D	C	R	HIP
CUBLAS_DIRECT_BACKWARD	11.0				
CUBLAS_DIRECT_FORWARD	11.0				
CUBLAS_STOREV_COLUMNWISE	11.0				
CUBLAS_STOREV_ROWWISE	11.0				
CUDALIBMG_GRID_MAPPING_COL_MAJOR	10.1				
CUDALIBMG_GRID_MAPPING_ROW_MAJOR	10.1				
CUSOLVERDN_GETRF	11.0				HIPSOLVERDN_GETRF
CUSOLVERDN_POTRF	11.5				
CUSOLVERRF_FACTORIZATION_ALG0					HIPSOLVERRF_FACTORIZATION_AL
CUSOLVERRF_FACTORIZATION_ALG1					HIPSOLVERRF_FACTORIZATION_AL
CUSOLVERRF_FACTORIZATION_ALG2					HIPSOLVERRF_FACTORIZATION_AL
CUSOLVERRF_MATRIX_FORMAT_CSC					HIPSOLVERRF_MATRIX_FORMAT_CS
CUSOLVERRF_MATRIX_FORMAT_CSR					HIPSOLVERRF_MATRIX_FORMAT_CS
CUSOLVERRF_NUMERIC_BOOST_NOT_USED					HIPSOLVERRF_NUMERIC_BOOST_NO
CUSOLVERRF_NUMERIC_BOOST_USED					HIPSOLVERRF_NUMERIC_BOOST_US
CUSOLVERRF_RESET_VALUES_FAST_MODE_OFF					HIPSOLVERRF_RESET_VALUES_FAS
CUSOLVERRF_RESET_VALUES_FAST_MODE_ON					HIPSOLVERRF_RESET_VALUES_FAS
CUSOLVERRF_TRIANGULAR_SOLVE_ALG1					HIPSOLVERRF_TRIANGULAR_SOLVE
CUSOLVERRF_TRIANGULAR_SOLVE_ALG2					HIPSOLVERRF_TRIANGULAR_SOLVE
CUSOLVERRF_TRIANGULAR_SOLVE_ALG3					HIPSOLVERRF_TRIANGULAR_SOLVE
CUSOLVERRF_UNIT_DIAGONAL_ASSUMED_L					HIPSOLVERRF_UNIT_DIAGONAL_AS
CUSOLVERRF_UNIT_DIAGONAL_ASSUMED_U					HIPSOLVERRF_UNIT_DIAGONAL_AS
CUSOLVERRF_UNIT_DIAGONAL_STORED_L					HIPSOLVERRF_UNIT_DIAGONAL_ST
CUSOLVERRF_UNIT_DIAGONAL_STORED_U					HIPSOLVERRF_UNIT_DIAGONAL_ST
CUSOLVER_ALG_0	11.0				HIPSOLVER_ALG_0
CUSOLVER_ALG_1	11.0				HIPSOLVER_ALG_1
CUSOLVER_ALG_2	11.5				
CUSOLVER_ALLOW_NON_DETERMINISTIC_RESULTS	12.2				HIPSOLVER_ALLOW_NON_DETERMIN
CUSOLVER_C_16BF	11.0				
CUSOLVER_C_16F	11.0				
CUSOLVER_C_32F	11.0				
CUSOLVER_C_64F	11.0				

Table 7.28 – continued from previous page

CUDA	A	D	C	R	HIP
CUSOLVER_C_8I	11.0				
CUSOLVER_C_8U	11.0				
CUSOLVER_C_AP	11.0				
CUSOLVER_C_TF32	11.0				
CUSOLVER_DETERMINISTIC_RESULTS	12.2				HIPSOLVER_DETERMINISTIC_RESU
CUSOLVER_EIG_MODE_NOVECTOR	8.0				HIPSOLVER_EIG_MODE_NOVECTOR
CUSOLVER_EIG_MODE_VECTOR	8.0				HIPSOLVER_EIG_MODE_VECTOR
CUSOLVER_EIG_RANGE_ALL	10.1				HIPSOLVER_EIG_RANGE_ALL
CUSOLVER_EIG_RANGE_I	10.1				HIPSOLVER_EIG_RANGE_I
CUSOLVER_EIG_RANGE_V	10.1				HIPSOLVER_EIG_RANGE_V
CUSOLVER_EIG_TYPE_1	8.0				HIPSOLVER_EIG_TYPE_1
CUSOLVER_EIG_TYPE_2	8.0				HIPSOLVER_EIG_TYPE_2
CUSOLVER_EIG_TYPE_3	8.0				HIPSOLVER_EIG_TYPE_3
CUSOLVER_FRO_NORM	10.2				
CUSOLVER_INF_NORM	10.2				
CUSOLVER_IRS_REFINE_CLASSICAL	10.2				
CUSOLVER_IRS_REFINE_CLASSICAL_GMRES	10.2				
CUSOLVER_IRS_REFINE_GMRES	10.2				
CUSOLVER_IRS_REFINE_GMRES_GMRES	10.2				
CUSOLVER_IRS_REFINE_GMRES_NOPCOND	11.0				
CUSOLVER_IRS_REFINE_NONE	10.2				
CUSOLVER_IRS_REFINE_NOT_SET	10.2				
CUSOLVER_MAX_NORM	10.2				
CUSOLVER_ONE_NORM	10.2				
CUSOLVER_PREC_DD	10.2				
CUSOLVER_PREC_SHT	10.2				
CUSOLVER_PREC_SS	10.2				
CUSOLVER_R_16BF	11.0				
CUSOLVER_R_16F	11.0				
CUSOLVER_R_32F	11.0				
CUSOLVER_R_64F	11.0				
CUSOLVER_R_8I	11.0				
CUSOLVER_R_8U	11.0				
CUSOLVER_R_AP	11.0				
CUSOLVER_R_TF32	11.0				
CUSOLVER_STATUS_ALLOC_FAILED					HIPSOLVER_STATUS_ALLOC_FAILE
CUSOLVER_STATUS_ARCH_MISMATCH					HIPSOLVER_STATUS_ARCH_MISMAT
CUSOLVER_STATUS_EXECUTION_FAILED					HIPSOLVER_STATUS_EXECUTION_F
CUSOLVER_STATUS_INTERNAL_ERROR					HIPSOLVER_STATUS_INTERNAL_ER
CUSOLVER_STATUS_INVALID_LICENSE					
CUSOLVER_STATUS_INVALID_VALUE					HIPSOLVER_STATUS_INVALID_VAL
CUSOLVER_STATUS_INVALID_WORKSPACE	11.0				
CUSOLVER_STATUS_IRS_INFOS_NOT_DESTROYED	11.0				
CUSOLVER_STATUS_IRS_INFOS_NOT_INITIALIZED	10.2				
CUSOLVER_STATUS_IRS_INTERNAL_ERROR	10.2				HIPSOLVER_STATUS_INTERNAL_ER
CUSOLVER_STATUS_IRS_MATRIX_SINGULAR	11.0				
CUSOLVER_STATUS_IRS_NOT_SUPPORTED	10.2				HIPSOLVER_STATUS_NOT_SUPPORT
CUSOLVER_STATUS_IRS_NRHS_NOT_SUPPORTED_FOR_REFINE_GMRES	10.2				
CUSOLVER_STATUS_IRS_OUT_OF_RANGE	10.2				
CUSOLVER_STATUS_IRS_PARAMS_INVALID	10.2				HIPSOLVER_STATUS_INVALID_VAL

Table 7.28 – continued from previous page

CUDA	A	D	C	R	HIP
CUSOLVER_STATUS_IRS_PARAMS_INVALID_MAXITER	11.0				
CUSOLVER_STATUS_IRS_PARAMS_INVALID_PREC	11.0				
CUSOLVER_STATUS_IRS_PARAMS_INVALID_REFINE	11.0				
CUSOLVER_STATUS_IRS_PARAMS_NOT_INITIALIZED	10.2				
CUSOLVER_STATUS_MAPPING_ERROR					HIPSOLVER_STATUS_MAPPING_ERR
CUSOLVER_STATUS_MATRIX_TYPE_NOT_SUPPORTED					HIPSOLVER_STATUS_MATRIX_TYPE_
CUSOLVER_STATUS_NOT_INITIALIZED					HIPSOLVER_STATUS_NOT_INITIAL
CUSOLVER_STATUS_NOT_SUPPORTED					HIPSOLVER_STATUS_NOT_SUPPORT
CUSOLVER_STATUS_SUCCESS					HIPSOLVER_STATUS_SUCCESS
CUSOLVER_STATUS_ZERO_PIVOT					HIPSOLVER_STATUS_ZERO_PIVOT
csrcholInfo	7.5				
csrcholInfoHost	7.5				
csrcholInfoHost_t	7.5				
csrcholInfo_t	7.5				
csrluInfoHost	7.5				
csrluInfoHost_t	7.5				
csrqrInfo					
csrqrInfoHost	7.5				
csrqrInfoHost_t	7.5				
csrqrInfo_t					
cudaLibMgGrid_t	10.1				
cudaLibMgMatrixDesc_t	10.1				
cusolverAlgMode_t	11.0				hipsolverAlgMode_t
cusolverDeterministicMode_t	12.2				hipsolverDeterministicMode_t
cusolverDirectMode_t	11.0				
cusolverDnContext					
cusolverDnFunction_t	11.0				hipsolverDnFunction_t
cusolverDnHandle_t					hipsolverHandle_t
cusolverDnIRSInfos	10.2				
cusolverDnIRSInfos_t	10.2				
cusolverDnIRSParams	10.2				
cusolverDnIRSParams_t	10.2				
cusolverDnLoggerCallback_t	11.7				
cusolverDnParams	11.0				
cusolverDnParams_t	11.0				hipsolverDnParams_t
cusolverEigMode_t	8.0				hipsolverEigMode_t
cusolverEigRange_t	10.1				hipsolverEigRange_t
cusolverEigType_t	8.0				hipsolverEigType_t
cusolverIRSRefinement_t	10.2				
cusolverMgContext	10.1				
cusolverMgGridMapping_t	10.1				
cusolverMgHandle_t	10.1				
cusolverNorm_t	10.2				
cusolverPrecType_t	11.0				
cusolverRfCommon					
cusolverRfFactorization_t					hipsolverRfFactorization_t
cusolverRfHandle_t					hipsolverRfHandle_t
cusolverRfMatrixFormat_t					hipsolverRfMatrixFormat_t
cusolverRfNumericBoostReport_t					hipsolverRfNumericBoostRepor
cusolverRfResetValuesFastMode_t					hipsolverRfResetValuesFastMo

Table 7.28 – continued from previous page

CUDA	A	D	C	R	HIP
cusolverRfTriangularSolve_t					hipsolverRfTriangularSolve_t
cusolverRfUnitDiagonal_t					hipsolverRfUnitDiagonal_t
cusolverSpContext					
cusolverSpHandle_t					hipsolverSpHandle_t
cusolverStatus_t					hipsolverStatus_t
cusolverStorevMode_t	11.0				
cusolver_int_t	10.1				int
gesvdjInfo	9.0				
gesvdjInfo_t	9.0				hipsolverGesvdjInfo_t
syevjInfo	9.0				
syevjInfo_t	9.0				hipsolverSyevjInfo_t

7.8.2 2. CUSOLVER Function Reference

CUDA	A	D	C	R	HIP
cusolverDnCCgels	11.0				hipsolverDnCCgels
cusolverDnCCgels_bufferSize	11.0				hipsolverDnCCgels_bufferSize
cusolverDnCCgesv	10.2				hipsolverDnCCgesv
cusolverDnCCgesv_bufferSize	10.2				hipsolverDnCCgesv_bufferSize
cusolverDnCEgels	11.0				
cusolverDnCEgels_bufferSize	11.0				
cusolverDnCEgesv	11.0				
cusolverDnCEgesv_bufferSize	11.0				
cusolverDnCKgels	11.0				
cusolverDnCKgels_bufferSize	11.0				
cusolverDnCKgesv	10.2				
cusolverDnCKgesv_bufferSize	10.2				
cusolverDnCYgels	11.0				
cusolverDnCYgels_bufferSize	11.0				
cusolverDnCYgesv	11.0				
cusolverDnCYgesv_bufferSize	11.0				
cusolverDnCgebrd					hipsolverDnCgebrd
cusolverDnCgebrd_bufferSize					hipsolverDnCgebrd_bufferSize
cusolverDnCgeqrf					hipsolverDnCgeqrf
cusolverDnCgeqrf_bufferSize					hipsolverDnCgeqrf_bufferSize
cusolverDnCgesvd					hipsolverDnCgesvd
cusolverDnCgesvd_bufferSize					hipsolverDnCgesvd_bufferSize
cusolverDnCgesvdaStridedBatched	10.1				hipsolverDnCgesvdaStridedBatched
cusolverDnCgesvdaStridedBatched_bufferSize	10.1				hipsolverDnCgesvdaStridedBatched_buffe
cusolverDnCgesvdj	9.0				hipsolverDnCgesvdj
cusolverDnCgesvdjBatched	9.0				hipsolverDnCgesvdjBatched
cusolverDnCgesvdjBatched_bufferSize	9.0				hipsolverDnCgesvdjBatched_bufferSize
cusolverDnCgesvdj_bufferSize	9.0				hipsolverDnCgesvdj_bufferSize
cusolverDnCgetrf					hipsolverDnCgetrf
cusolverDnCgetrf_bufferSize					hipsolverDnCgetrf_bufferSize
cusolverDnCgetrs					hipsolverDnCgetrs
cusolverDnCheevd	8.0				hipsolverDnCheevd
cusolverDnCheevd_bufferSize	8.0				hipsolverDnCheevd_bufferSize
cusolverDnCheevdx	10.1				hipsolverDnCheevdx

Table 7.29 – continued from previous page

CUDA	A	D	C	R	HIP
cusolverDnCheevdx_bufferSize	10.1				hipsolverDnCheevdx_bufferSize
cusolverDnCheevj	9.0				hipsolverDnCheevj
cusolverDnCheevjBatched	9.0				hipsolverDnCheevjBatched
cusolverDnCheevjBatched_bufferSize	9.0				hipsolverDnCheevjBatched_bufferSize
cusolverDnCheevj_bufferSize	9.0				hipsolverDnCheevj_bufferSize
cusolverDnChegvd	8.0				hipsolverDnChegvd
cusolverDnChegvd_bufferSize	8.0				hipsolverDnChegvd_bufferSize
cusolverDnChegvdx	10.1				hipsolverDnChegvdx
cusolverDnChegvdx_bufferSize	10.1				hipsolverDnChegvdx_bufferSize
cusolverDnChegvj	9.0				hipsolverDnChegvj
cusolverDnChegvj_bufferSize	9.0				hipsolverDnChegvj_bufferSize
cusolverDnChetrd	8.0				hipsolverDnChetrd
cusolverDnChetrd_bufferSize	8.0				hipsolverDnChetrd_bufferSize
cusolverDnClaswp					
cusolverDnClauum	10.1				
cusolverDnClauum_bufferSize	10.1				
cusolverDnCpotrf					hipsolverDnCpotrf
cusolverDnCpotrfBatched	9.1				hipsolverDnCpotrfBatched
cusolverDnCpotrf_bufferSize					hipsolverDnCpotrf_bufferSize
cusolverDnCpotri	10.1				hipsolverDnCpotri
cusolverDnCpotri_bufferSize	10.1				hipsolverDnCpotri_bufferSize
cusolverDnCpotrs					hipsolverDnCpotrs
cusolverDnCpotrsBatched	9.1				hipsolverDnCpotrsBatched
cusolverDnCreate					hipsolverDnCreate
cusolverDnCreateGesvdjInfo	9.0				hipsolverDnCreateGesvdjInfo
cusolverDnCreateParams	11.0				hipsolverDnCreateParams
cusolverDnCreateSyevjInfo	9.0				hipsolverDnCreateSyevjInfo
cusolverDnCsytrf					hipsolverDnCsytrf
cusolverDnCsytrf_bufferSize					hipsolverDnCsytrf_bufferSize
cusolverDnCsytri	10.1				
cusolverDnCsytri_bufferSize	10.1				
cusolverDnCungbr	8.0				hipsolverDnCungbr
cusolverDnCungbr_bufferSize	8.0				hipsolverDnCungbr_bufferSize
cusolverDnCungqr	8.0				hipsolverDnCungqr
cusolverDnCungqr_bufferSize	8.0				hipsolverDnCungqr_bufferSize
cusolverDnCungtr	8.0				hipsolverDnCungtr
cusolverDnCungtr_bufferSize	8.0				hipsolverDnCungtr_bufferSize
cusolverDnCunmqr					hipsolverDnCunmqr
cusolverDnCunmqr_bufferSize	8.0				hipsolverDnCunmqr_bufferSize
cusolverDnCunmtr	8.0				hipsolverDnCunmtr
cusolverDnCunmtr_bufferSize	8.0				hipsolverDnCunmtr_bufferSize
cusolverDnDBgels	11.0				
cusolverDnDBgels_bufferSize	11.0				
cusolverDnDBgesv	11.0				
cusolverDnDBgesv_bufferSize	11.0				
cusolverDnDDgels	11.0				hipsolverDnDDgels
cusolverDnDDgels_bufferSize	11.0				hipsolverDnDDgels_bufferSize
cusolverDnDDgesv	10.2				hipsolverDnDDgesv
cusolverDnDDgesv_bufferSize	10.2				hipsolverDnDDgesv_bufferSize
cusolverDnDHgels	11.0				

Table 7.29 – continued from previous page

CUDA	A	D	C	R	HIP
cusolverDnDHgels_bufferSize	11.0				
cusolverDnDHgesv	10.2				
cusolverDnDHgesv_bufferSize	10.2				
cusolverDnDSgels	11.0				
cusolverDnDSgels_bufferSize	11.0				
cusolverDnDSgesv	10.2				
cusolverDnDSgesv_bufferSize	10.2				
cusolverDnDXgels	11.0				
cusolverDnDXgels_bufferSize	11.0				
cusolverDnDXgesv	11.0				
cusolverDnDXgesv_bufferSize	11.0				
cusolverDnDestroy					hipsolverDnDestroy
cusolverDnDestroyGesvdjInfo	9.0				hipsolverDnDestroyGesvdjInfo
cusolverDnDestroyParams	11.0				hipsolverDnDestroyParams
cusolverDnDestroySyevjInfo	9.0				hipsolverDnDestroySyevjInfo
cusolverDnDgebrd					hipsolverDnDgebrd
cusolverDnDgebrd_bufferSize					hipsolverDnDgebrd_bufferSize
cusolverDnDgeqrf					hipsolverDnDgeqrf
cusolverDnDgeqrf_bufferSize					hipsolverDnDgeqrf_bufferSize
cusolverDnDgesvd					hipsolverDnDgesvd
cusolverDnDgesvd_bufferSize					hipsolverDnDgesvd_bufferSize
cusolverDnDgesvdaStridedBatched	10.1				hipsolverDnDgesvdaStridedBatched
cusolverDnDgesvdaStridedBatched_bufferSize	10.1				hipsolverDnDgesvdaStridedBatched_buffe
cusolverDnDgesvdj	9.0				hipsolverDnDgesvdj
cusolverDnDgesvdjBatched	9.0				hipsolverDnDgesvdjBatched
cusolverDnDgesvdjBatched_bufferSize	9.0				hipsolverDnDgesvdjBatched_bufferSize
cusolverDnDgesvdj_bufferSize	9.0				hipsolverDnDgesvdj_bufferSize
cusolverDnDgetrf					hipsolverDnDgetrf
cusolverDnDgetrf_bufferSize					hipsolverDnDgetrf_bufferSize
cusolverDnDgetrs					hipsolverDnDgetrs
cusolverDnDlaswp					
cusolverDnDlauum	10.1				
cusolverDnDlauum_bufferSize	10.1				
cusolverDnDorgbr	8.0				hipsolverDnDorgbr
cusolverDnDorgbr_bufferSize	8.0				hipsolverDnDorgbr_bufferSize
cusolverDnDorgqr	8.0				hipsolverDnDorgqr
cusolverDnDorgqr_bufferSize	8.0				hipsolverDnDorgqr_bufferSize
cusolverDnDorgtr	8.0				hipsolverDnDorgtr
cusolverDnDorgtr_bufferSize	8.0				hipsolverDnDorgtr_bufferSize
cusolverDnDormqr					hipsolverDnDormqr
cusolverDnDormqr_bufferSize	8.0				hipsolverDnDormqr_bufferSize
cusolverDnDormtr	8.0				hipsolverDnDormtr
cusolverDnDormtr_bufferSize	8.0				hipsolverDnDormtr_bufferSize
cusolverDnDpotrf					hipsolverDnDpotrf
cusolverDnDpotrfBatched	9.1				hipsolverDnDpotrfBatched
cusolverDnDpotrf_bufferSize					hipsolverDnDpotrf_bufferSize
cusolverDnDpotri	10.1				hipsolverDnDpotri
cusolverDnDpotri_bufferSize	10.1				hipsolverDnDpotri_bufferSize
cusolverDnDpotrs					hipsolverDnDpotrs
cusolverDnDpotrsBatched	9.1				hipsolverDnDpotrsBatched

Table 7.29 – continued from previous page

CUDA	A	D	C	R	HIP
cusolverDnDsyevd	8.0				hipsolverDnDsyevd
cusolverDnDsyevd_bufferSize	8.0				hipsolverDnDsyevd_bufferSize
cusolverDnDsyevdx	10.1				hipsolverDnDsyevdx
cusolverDnDsyevdx_bufferSize	10.1				hipsolverDnDsyevdx_bufferSize
cusolverDnDsyevj	9.0				hipsolverDnDsyevj
cusolverDnDsyevjBatched	9.0				hipsolverDnDsyevjBatched
cusolverDnDsyevjBatched_bufferSize	9.0				hipsolverDnDsyevjBatched_bufferSize
cusolverDnDsyevj_bufferSize	9.0				hipsolverDnDsyevj_bufferSize
cusolverDnDsygvd	8.0				hipsolverDnDsygvd
cusolverDnDsygvd_bufferSize	8.0				hipsolverDnDsygvd_bufferSize
cusolverDnDsygvdx	10.1				hipsolverDnDsygvdx
cusolverDnDsygvdx_bufferSize	10.1				hipsolverDnDsygvdx_bufferSize
cusolverDnDsygvj	9.0				hipsolverDnDsygvj
cusolverDnDsygvj_bufferSize	9.0				hipsolverDnDsygvj_bufferSize
cusolverDnDsytrd					hipsolverDnDsytrd
cusolverDnDsytrd_bufferSize	8.0				hipsolverDnDsytrd_bufferSize
cusolverDnDsytrf					hipsolverDnDsytrf
cusolverDnDsytrf_bufferSize					hipsolverDnDsytrf_bufferSize
cusolverDnDsytri	10.1				
cusolverDnDsytri_bufferSize	10.1				
cusolverDnGeqrf	11.0	11.1			
cusolverDnGeqrf_bufferSize	11.0	11.1			
cusolverDnGesvd	11.0	11.1			
cusolverDnGesvd_bufferSize	11.0	11.1			
cusolverDnGetDeterministicMode	12.2				hipsolverDnGetDeterministicMode
cusolverDnGetStream					hipsolverGetStream
cusolverDnGetrf	11.0	11.1			
cusolverDnGetrf_bufferSize	11.0	11.1			
cusolverDnGetrs	11.0	11.1			
cusolverDnIRSInfosCreate	10.2				
cusolverDnIRSInfosDestroy	10.2				
cusolverDnIRSInfosGetMaxIters	10.2				
cusolverDnIRSInfosGetNiters	10.2				
cusolverDnIRSInfosGetOuterNiters	10.2				
cusolverDnIRSInfosGetResidualHistory	10.2				
cusolverDnIRSInfosRequestResidual	10.2				
cusolverDnIRSParamsCreate	10.2				
cusolverDnIRSParamsDestroy	10.2				
cusolverDnIRSParamsDisableFallback	11.0				
cusolverDnIRSParamsEnableFallback	11.0				
cusolverDnIRSParamsGetMaxIters	10.2				
cusolverDnIRSParamsSetMaxIters	10.2				
cusolverDnIRSParamsSetMaxItersInner	10.2				
cusolverDnIRSParamsSetRefinementSolver	10.2				
cusolverDnIRSParamsSetSolverLowestPrecision	10.2				
cusolverDnIRSParamsSetSolverMainPrecision	10.2				
cusolverDnIRSParamsSetSolverPrecisions	10.2				
cusolverDnIRSParamsSetTol	10.2				
cusolverDnIRSParamsSetTolInner	10.2				
cusolverDnIRSXgels	11.0				

Table 7.29 – continued from previous page

CUDA	A	D	C	R	HIP
cusolverDnIRSXgels_bufferSize	11.0				
cusolverDnIRSXgesv	10.2				
cusolverDnIRSXgesv_bufferSize	10.2				
cusolverDnLoggerForceDisable	11.7				
cusolverDnLoggerOpenFile	11.7				
cusolverDnLoggerSetCallback	11.7				
cusolverDnLoggerSetFile	11.7				
cusolverDnLoggerSetLevel	11.7				
cusolverDnLoggerSetMask	11.7				
cusolverDnPotrf	11.0	11.1			
cusolverDnPotrf_bufferSize	11.0	11.1			
cusolverDnPotrs	11.0	11.1			
cusolverDnSBgels	11.0				
cusolverDnSBgels_bufferSize	11.0				
cusolverDnSBgesv	11.0				
cusolverDnSBgesv_bufferSize	11.0				
cusolverDnSHgels	11.0				
cusolverDnSHgels_bufferSize	11.0				
cusolverDnSHgesv	10.2				
cusolverDnSHgesv_bufferSize	10.2				
cusolverDnSSgels	11.0				hipsolverDnSSgels
cusolverDnSSgels_bufferSize	11.0				hipsolverDnSSgels_bufferSize
cusolverDnSSgesv	10.2				hipsolverDnSSgesv
cusolverDnSSgesv_bufferSize	10.2				hipsolverDnSSgesv_bufferSize
cusolverDnSXgels	11.0				
cusolverDnSXgels_bufferSize	11.0				
cusolverDnSXgesv	11.0				
cusolverDnSXgesv_bufferSize	11.0				
cusolverDnSetAdvOptions	11.0				hipsolverDnSetAdvOptions
cusolverDnSetDeterministicMode	12.2				hipsolverDnSetDeterministicMode
cusolverDnSetStream					hipsolverSetStream
cusolverDnSgebrd					hipsolverDnSgebrd
cusolverDnSgebrd_bufferSize					hipsolverDnSgebrd_bufferSize
cusolverDnSgeqrf					hipsolverDnSgeqrf
cusolverDnSgeqrf_bufferSize					hipsolverDnSgeqrf_bufferSize
cusolverDnSgesvd					hipsolverDnSgesvd
cusolverDnSgesvd_bufferSize					hipsolverDnSgesvd_bufferSize
cusolverDnSgesvdaStridedBatched	10.1				hipsolverDnSgesvdaStridedBatched
cusolverDnSgesvdaStridedBatched_bufferSize	10.1				hipsolverDnSgesvdaStridedBatched_buffe
cusolverDnSgesvdj	9.0				hipsolverDnSgesvdj
cusolverDnSgesvdjBatched	9.0				hipsolverDnSgesvdjBatched
cusolverDnSgesvdjBatched_bufferSize	9.0				hipsolverDnSgesvdjBatched_bufferSize
cusolverDnSgesvdj_bufferSize	9.0				hipsolverDnSgesvdj_bufferSize
cusolverDnSgetrf					hipsolverDnSgetrf
cusolverDnSgetrf_bufferSize					hipsolverDnSgetrf_bufferSize
cusolverDnSgetrs					hipsolverDnSgetrs
cusolverDnSlaswp					
cusolverDnSlauum	10.1				
cusolverDnSlauum_bufferSize	10.1				
cusolverDnSorgbr	8.0				hipsolverDnSorgbr

Table 7.29 – continued from previous page

CUDA	A	D	C	R	HIP
cusolverDnSorgbr_bufferSize	8.0				hipsolverDnSorgbr_bufferSize
cusolverDnSorgqr	8.0				hipsolverDnSorgqr
cusolverDnSorgqr_bufferSize	8.0				hipsolverDnSorgqr_bufferSize
cusolverDnSorgtr	8.0				hipsolverDnSorgtr
cusolverDnSorgtr_bufferSize	8.0				hipsolverDnSorgtr_bufferSize
cusolverDnSormqr					hipsolverDnSormqr
cusolverDnSormqr_bufferSize	8.0				hipsolverDnSormqr_bufferSize
cusolverDnSormtr	8.0				hipsolverDnSormtr
cusolverDnSormtr_bufferSize	8.0				hipsolverDnSormtr_bufferSize
cusolverDnSpotrf					hipsolverDnSpotrf
cusolverDnSpotrfBatched	9.1				hipsolverDnSpotrfBatched
cusolverDnSpotrf_bufferSize					hipsolverDnSpotrf_bufferSize
cusolverDnSpotri	10.1				hipsolverDnSpotri
cusolverDnSpotri_bufferSize	10.1				hipsolverDnSpotri_bufferSize
cusolverDnSpotrs					hipsolverDnSpotrs
cusolverDnSpotrsBatched	9.1				hipsolverDnSpotrsBatched
cusolverDnSsyevd	8.0				hipsolverDnSsyevd
cusolverDnSsyevd_bufferSize	8.0				hipsolverDnSsyevd_bufferSize
cusolverDnSsyevdx	10.1				hipsolverDnSsyevdx
cusolverDnSsyevdx_bufferSize	10.1				hipsolverDnSsyevdx_bufferSize
cusolverDnSsyevj	9.0				hipsolverDnSsyevj
cusolverDnSsyevjBatched	9.0				hipsolverDnSsyevjBatched
cusolverDnSsyevjBatched_bufferSize	9.0				hipsolverDnSsyevjBatched_bufferSize
cusolverDnSsyevj_bufferSize	9.0				hipsolverDnSsyevj_bufferSize
cusolverDnSsygvd	8.0				hipsolverDnSsygvd
cusolverDnSsygvd_bufferSize	8.0				hipsolverDnSsygvd_bufferSize
cusolverDnSsygvdx	10.1				hipsolverDnSsygvdx
cusolverDnSsygvdx_bufferSize	10.1				hipsolverDnSsygvdx_bufferSize
cusolverDnSsygvj	9.0				hipsolverDnSsygvj
cusolverDnSsygvj_bufferSize	9.0				hipsolverDnSsygvj_bufferSize
cusolverDnSsytrd					hipsolverDnSsytrd
cusolverDnSsytrd_bufferSize	8.0				hipsolverDnSsytrd_bufferSize
cusolverDnSsytrf					hipsolverDnSsytrf
cusolverDnSsytrf_bufferSize					hipsolverDnSsytrf_bufferSize
cusolverDnSsytri	10.1				
cusolverDnSsytri_bufferSize	10.1				
cusolverDnSyevd	11.0	11.1			
cusolverDnSyevd_bufferSize	11.0	11.1			
cusolverDnSyevdx	11.0	11.1			
cusolverDnSyevdx_bufferSize	11.0	11.1			
cusolverDnXgeev	12.6				
cusolverDnXgeev_bufferSize	12.6				
cusolverDnXgeqrf	11.1				hipsolverDnXgeqrf
cusolverDnXgeqrf_bufferSize	11.1				hipsolverDnXgeqrf_bufferSize
cusolverDnXgesvd	11.1				
cusolverDnXgesvd_bufferSize	11.1				
cusolverDnXgesvdjGetResidual	9.0				hipsolverDnXgesvdjGetResidual
cusolverDnXgesvdjGetSweeps	9.0				hipsolverDnXgesvdjGetSweeps
cusolverDnXgesvdjSetMaxSweeps	9.0				hipsolverDnXgesvdjSetMaxSweeps
cusolverDnXgesvdjSetSortEig	9.0				hipsolverDnXgesvdjSetSortEig

Table 7.29 – continued from previous page

CUDA	A	D	C	R	HIP
cusolverDnXgesvdjSetTolerance	9.0				hipsolverDnXgesvdjSetTolerance
cusolverDnXgesvdp	11.1				
cusolverDnXgesvdp_bufferSize	11.1				
cusolverDnXgesvdr	11.2				
cusolverDnXgesvdr_bufferSize	11.2				
cusolverDnXgetrf	11.1				hipsolverDnXgetrf
cusolverDnXgetrf_bufferSize	11.1				hipsolverDnXgetrf_bufferSize
cusolverDnXgetrs	11.1				hipsolverDnXgetrs
cusolverDnXlarft	12.4				
cusolverDnXlarft_bufferSize	12.4				
cusolverDnXpotrf	11.1				hipsolverDnXpotrf
cusolverDnXpotrf_bufferSize	11.1				hipsolverDnXpotrf_bufferSize
cusolverDnXpotrs	11.1				hipsolverDnXpotrs
cusolverDnXsyevBatched	12.6				
cusolverDnXsyevBatched_bufferSize	12.6				
cusolverDnXsyevd	11.1				
cusolverDnXsyevd_bufferSize	11.1				
cusolverDnXsyevdx	11.1				
cusolverDnXsyevdx_bufferSize	11.1				
cusolverDnXsyevjGetResidual	9.0				hipsolverDnXsyevjGetResidual
cusolverDnXsyevjGetSweeps	9.0				hipsolverDnXsyevjGetSweeps
cusolverDnXsyevjSetMaxSweeps	9.0				hipsolverDnXsyevjSetMaxSweeps
cusolverDnXsyevjSetSortEig	9.0				hipsolverDnXsyevjSetSortEig
cusolverDnXsyevjSetTolerance	9.0				hipsolverDnXsyevjSetTolerance
cusolverDnXsytrs	11.3				
cusolverDnXsytrs_bufferSize	11.3				
cusolverDnXtrtri	11.4				
cusolverDnXtrtri_bufferSize	11.4				
cusolverDnZCgels	11.0				
cusolverDnZCgels_bufferSize	11.0				
cusolverDnZCgesv	10.2				
cusolverDnZCgesv_bufferSize	10.2				
cusolverDnZEgels	11.0				
cusolverDnZEgels_bufferSize	11.0				
cusolverDnZEgesv	11.0				
cusolverDnZEgesv_bufferSize	11.0				
cusolverDnZKgels	11.0				
cusolverDnZKgels_bufferSize	11.0				
cusolverDnZKgesv	10.2				
cusolverDnZKgesv_bufferSize	10.2				
cusolverDnZYgels	11.0				
cusolverDnZYgels_bufferSize	11.0				
cusolverDnZYgesv	11.0				
cusolverDnZYgesv_bufferSize	11.0				
cusolverDnZZgels	11.0				hipsolverDnZZgels
cusolverDnZZgels_bufferSize	11.0				hipsolverDnZZgels_bufferSize
cusolverDnZZgesv	10.2				hipsolverDnZZgesv
cusolverDnZZgesv_bufferSize	10.2				hipsolverDnZZgesv_bufferSize
cusolverDnZgebrd					hipsolverDnZgebrd
cusolverDnZgebrd_bufferSize					hipsolverDnZgebrd_bufferSize

Table 7.29 – continued from previous page

CUDA	A	D	C	R	HIP
cusolverDnZgeqrf					hipsolverDnZgeqrf
cusolverDnZgeqrf_bufferSize					hipsolverDnZgeqrf_bufferSize
cusolverDnZgesvd					hipsolverDnZgesvd
cusolverDnZgesvd_bufferSize					hipsolverDnZgesvd_bufferSize
cusolverDnZgesvdaStridedBatched	10.1				hipsolverDnZgesvdaStridedBatched
cusolverDnZgesvdaStridedBatched_bufferSize	10.1				hipsolverDnZgesvdaStridedBatched_buffe
cusolverDnZgesvdj	9.0				hipsolverDnZgesvdj
cusolverDnZgesvdjBatched	9.0				hipsolverDnZgesvdjBatched
cusolverDnZgesvdjBatched_bufferSize	9.0				hipsolverDnZgesvdjBatched_bufferSize
cusolverDnZgesvdj_bufferSize	9.0				hipsolverDnZgesvdj_bufferSize
cusolverDnZgetrf					hipsolverDnZgetrf
cusolverDnZgetrf_bufferSize					hipsolverDnZgetrf_bufferSize
cusolverDnZgetrs					hipsolverDnZgetrs
cusolverDnZheevd	8.0				hipsolverDnZheevd
cusolverDnZheevd_bufferSize	8.0				hipsolverDnZheevd_bufferSize
cusolverDnZheevdx	10.1				hipsolverDnZheevdx
cusolverDnZheevdx_bufferSize	10.1				hipsolverDnZheevdx_bufferSize
cusolverDnZheevj	9.0				hipsolverDnZheevj
cusolverDnZheevjBatched	9.0				hipsolverDnZheevjBatched
cusolverDnZheevjBatched_bufferSize	9.0				hipsolverDnZheevjBatched_bufferSize
cusolverDnZheevj_bufferSize	9.0				hipsolverDnZheevj_bufferSize
cusolverDnZhegvd	8.0				hipsolverDnZhegvd
cusolverDnZhegvd_bufferSize	8.0				hipsolverDnZhegvd_bufferSize
cusolverDnZhegvdx	10.1				hipsolverDnZhegvdx
cusolverDnZhegvdx_bufferSize	10.1				hipsolverDnZhegvdx_bufferSize
cusolverDnZhegvj	9.0				hipsolverDnZhegvj
cusolverDnZhegvj_bufferSize	9.0				hipsolverDnZhegvj_bufferSize
cusolverDnZhetrd	8.0				hipsolverDnZhetrd
cusolverDnZhetrd_bufferSize	8.0				hipsolverDnZhetrd_bufferSize
cusolverDnZlaswp					
cusolverDnZlauum	10.1				
cusolverDnZlauum_bufferSize	10.1				
cusolverDnZpotrf					hipsolverDnZpotrf
cusolverDnZpotrfBatched	9.1				hipsolverDnZpotrfBatched
cusolverDnZpotrf_bufferSize					hipsolverDnZpotrf_bufferSize
cusolverDnZpotri	10.1				hipsolverDnZpotri
cusolverDnZpotri_bufferSize	10.1				hipsolverDnZpotri_bufferSize
cusolverDnZpotrs					hipsolverDnZpotrs
cusolverDnZpotrsBatched	9.1				hipsolverDnZpotrsBatched
cusolverDnZsytrf					hipsolverDnZsytrf
cusolverDnZsytrf_bufferSize					hipsolverDnZsytrf_bufferSize
cusolverDnZsytri	10.1				
cusolverDnZsytri_bufferSize	10.1				
cusolverDnZungbr	8.0				hipsolverDnZungbr
cusolverDnZungbr_bufferSize	8.0				hipsolverDnZungbr_bufferSize
cusolverDnZungqr	8.0				hipsolverDnZungqr
cusolverDnZungqr_bufferSize	8.0				hipsolverDnZungqr_bufferSize
cusolverDnZungtr	8.0				hipsolverDnZungtr
cusolverDnZungtr_bufferSize	8.0				hipsolverDnZungtr_bufferSize
cusolverDnZunmqr					hipsolverDnZunmqr

Table 7.29 – continued from previous page

CUDA	A	D	C	R	HIP
cusolverDnZunmqr_bufferSize	8.0				hipsolverDnZunmqr_bufferSize
cusolverDnZunmtr	8.0				hipsolverDnZunmtr
cusolverDnZunmtr_bufferSize	8.0				hipsolverDnZunmtr_bufferSize
cusolverMgCreate	10.1				
cusolverMgCreateDeviceGrid	10.1				
cusolverMgCreateMatrixDesc	10.1				
cusolverMgDestroy	10.1				
cusolverMgDestroyGrid	10.1				
cusolverMgDeviceSelect	10.1				
cusolverMgGetrf	10.2				
cusolverMgGetrf_bufferSize	10.2				
cusolverMgGetrs	10.2				
cusolverMgGetrs_bufferSize	10.2				
cusolverMgPotrf	11.0				
cusolverMgPotrf_bufferSize	11.0				
cusolverMgPotri	11.0				
cusolverMgPotri_bufferSize	11.0				
cusolverMgPotrs	11.0				
cusolverMgPotrs_bufferSize	11.0				
cusolverMgSyevd	10.1				
cusolverMgSyevd_bufferSize	10.1				
cusolverRfAccessBundledFactorsDevice		12.8			hipsolverRfAccessBundledFactorsDevice
cusolverRfAnalyze		12.8			hipsolverRfAnalyze
cusolverRfBatchAnalyze					hipsolverRfBatchAnalyze
cusolverRfBatchRefactor					hipsolverRfBatchRefactor
cusolverRfBatchResetValues					hipsolverRfBatchResetValues
cusolverRfBatchSetupHost					hipsolverRfBatchSetupHost
cusolverRfBatchSolve					hipsolverRfBatchSolve
cusolverRfBatchZeroPivot					hipsolverRfBatchZeroPivot
cusolverRfCreate					hipsolverRfCreate
cusolverRfDestroy					hipsolverRfDestroy
cusolverRfExtractBundledFactorsHost		12.8			hipsolverRfExtractBundledFactorsHost
cusolverRfExtractSplitFactorsHost		12.8			hipsolverRfExtractSplitFactorsHost
cusolverRfGetAlgs					
cusolverRfGetMatrixFormat					hipsolverRfGetMatrixFormat
cusolverRfGetNumericBoostReport					hipsolverRfGetNumericBoostReport
cusolverRfGetNumericProperties					hipsolverRfGetNumericProperties
cusolverRfGetResetValuesFastMode					hipsolverRfGetResetValuesFastMode
cusolverRfRefactor		12.8			hipsolverRfRefactor
cusolverRfResetValues		12.8			hipsolverRfResetValues
cusolverRfSetAlgs					hipsolverRfSetAlgs
cusolverRfSetMatrixFormat					hipsolverRfSetMatrixFormat
cusolverRfSetNumericProperties					hipsolverRfSetNumericProperties
cusolverRfSetResetValuesFastMode					hipsolverRfSetResetValuesFastMode
cusolverRfSetupDevice		12.8			hipsolverRfSetupDevice
cusolverRfSetupHost		12.8			hipsolverRfSetupHost
cusolverRfSolve		12.8			hipsolverRfSolve
cusolverSpCcsrcholBufferInfo	7.5	12.8			
cusolverSpCcsrcholBufferInfoHost	7.5	12.8			
cusolverSpCcsrcholDiag	10.1	12.8			

Table 7.29 – continued from previous page

CUDA	A	D	C	R	HIP
cusolverSpCcsrcholFactor	7.5	12.8			
cusolverSpCcsrcholFactorHost	7.5	12.8			
cusolverSpCcsrcholSolve	7.5	12.8			
cusolverSpCcsrcholSolveHost	7.5	12.8			
cusolverSpCcsrcholZeroPivot	7.5	12.8			
cusolverSpCcsrcholZeroPivotHost	7.5	12.8			
cusolverSpCcsreigsHost					
cusolverSpCcsreigvsi					
cusolverSpCcsreigvsiHost					
cusolverSpCcsrlsqvqrHost					
cusolverSpCcsrlsvchol		12.8			
cusolverSpCcsrlsvcholHost		12.8			
cusolverSpCcsrlsvluHost		12.8			
cusolverSpCcsrlsvqr					hipsolverSpCcsrlsvqr
cusolverSpCcsrlsvqrHost					
cusolverSpCcsrluBufferInfoHost	7.5	12.8			
cusolverSpCcsrluExtractHost	7.5	12.8			
cusolverSpCcsrluFactorHost	7.5	12.8			
cusolverSpCcsrluSolveHost	7.5	12.8			
cusolverSpCcsrluZeroPivotHost	7.5	12.8			
cusolverSpCcsrqrBufferInfo	7.5				
cusolverSpCcsrqrBufferInfoBatched					
cusolverSpCcsrqrBufferInfoHost	7.5				
cusolverSpCcsrqrFactor	7.5				
cusolverSpCcsrqrFactorHost	7.5				
cusolverSpCcsrqrSetup	7.5				
cusolverSpCcsrqrSetupHost	7.5				
cusolverSpCcsrqrSolve	7.5				
cusolverSpCcsrqrSolveHost	7.5				
cusolverSpCcsrqrZeroPivot	7.5				
cusolverSpCcsrqrZeroPivotHost	7.5				
cusolverSpCcsrqrsvBatched					
cusolverSpCcsrzfdHost	9.2				
cusolverSpCreate					hipsolverSpCreate
cusolverSpCreateCsrcholInfo	7.5	12.8			
cusolverSpCreateCsrcholInfoHost	7.5				
cusolverSpCreateCsrluInfoHost	7.5				
cusolverSpCreateCsrqrInfo					
cusolverSpCreateCsrqrInfoHost	7.5				
cusolverSpDcsrcholBufferInfo	7.5	12.8			
cusolverSpDcsrcholBufferInfoHost	7.5	12.8			
cusolverSpDcsrcholDiag	10.1	12.8			
cusolverSpDcsrcholFactor	7.5	12.8			
cusolverSpDcsrcholFactorHost	7.5	12.8			
cusolverSpDcsrcholSolve	7.5	12.8			
cusolverSpDcsrcholSolveHost	7.5	12.8			
cusolverSpDcsrcholZeroPivot	7.5	12.8			
cusolverSpDcsrcholZeroPivotHost	7.5	12.8			
cusolverSpDcsreigsHost					
cusolverSpDcsreigvsi					

Table 7.29 – continued from previous page

CUDA	A	D	C	R	HIP
cusolverSpDcsreigvsiHost					
cusolverSpDcsrlsqvqrHost					
cusolverSpDcsrlsvchol		12.8			hipsolverSpDcsrlsvchol
cusolverSpDcsrlsvcholHost		12.8			hipsolverSpDcsrlsvcholHost
cusolverSpDcsrlsvluHost		12.8			
cusolverSpDcsrlsvqr					hipsolverSpDcsrlsvqr
cusolverSpDcsrlsvqrHost					
cusolverSpDcsrluBufferInfoHost	7.5	12.8			
cusolverSpDcsrluExtractHost	7.5	12.8			
cusolverSpDcsrluFactorHost	7.5	12.8			
cusolverSpDcsrluSolveHost	7.5	12.8			
cusolverSpDcsrluZeroPivotHost	7.5	12.8			
cusolverSpDcsrqrBufferInfo	7.5				
cusolverSpDcsrqrBufferInfoBatched					
cusolverSpDcsrqrBufferInfoHost	7.5				
cusolverSpDcsrqrFactor	7.5				
cusolverSpDcsrqrFactorHost	7.5				
cusolverSpDcsrqrSetup	7.5				
cusolverSpDcsrqrSetupHost	7.5				
cusolverSpDcsrqrSolve	7.5				
cusolverSpDcsrqrSolveHost	7.5				
cusolverSpDcsrqrZeroPivot	7.5				
cusolverSpDcsrqrZeroPivotHost	7.5				
cusolverSpDcsrqrsvBatched					
cusolverSpDcsrzfdHost	9.2				
cusolverSpDestroy					hipsolverSpDestroy
cusolverSpDestroyCsrcholInfo	7.5	12.8			
cusolverSpDestroyCsrcholInfoHost	7.5				
cusolverSpDestroyCsrluInfoHost	7.5				
cusolverSpDestroyCsrqrInfo					
cusolverSpDestroyCsrqrInfoHost	7.5				
cusolverSpGetStream					
cusolverSpScsrcholBufferInfo	7.5	12.8			
cusolverSpScsrcholBufferInfoHost	7.5	12.8			
cusolverSpScsrcholDiag	10.1	12.8			
cusolverSpScsrcholFactor	7.5	12.8			
cusolverSpScsrcholFactorHost	7.5	12.8			
cusolverSpScsrcholSolve	7.5	12.8			
cusolverSpScsrcholSolveHost	7.5	12.8			
cusolverSpScsrcholZeroPivot	7.5	12.8			
cusolverSpScsrcholZeroPivotHost	7.5	12.8			
cusolverSpScsreigsHost					
cusolverSpScsreigvsi					
cusolverSpScsreigvsiHost					
cusolverSpScsrlsqvqrHost					
cusolverSpScsrlsvchol		12.8			hipsolverSpScsrlsvchol
cusolverSpScsrlsvcholHost		12.8			hipsolverSpScsrlsvcholHost
cusolverSpScsrlsvluHost		12.8			
cusolverSpScsrlsvqr					hipsolverSpScsrlsvqr
cusolverSpScsrlsvqrHost					

Table 7.29 – continued from previous page

CUDA	A	D	C	R	HIP
cusolverSpScsrluBufferInfoHost	7.5	12.8			
cusolverSpScsrluExtractHost	7.5	12.8			
cusolverSpScsrluFactorHost	7.5	12.8			
cusolverSpScsrluSolveHost	7.5	12.8			
cusolverSpScsrluZeroPivotHost	7.5	12.8			
cusolverSpScsrqrBufferInfo	7.5				
cusolverSpScsrqrBufferInfoBatched					
cusolverSpScsrqrBufferInfoHost	7.5				
cusolverSpScsrqrFactor	7.5				
cusolverSpScsrqrFactorHost	7.5				
cusolverSpScsrqrSetup	7.5				
cusolverSpScsrqrSetupHost	7.5				
cusolverSpScsrqrSolve	7.5				
cusolverSpScsrqrSolveHost	7.5				
cusolverSpScsrqrZeroPivot	7.5				
cusolverSpScsrqrZeroPivotHost	7.5				
cusolverSpScsrqrsvBatched					
cusolverSpScsrzfdHost	9.2				
cusolverSpSetStream					hipsolverSpSetStream
cusolverSpXcsrcholAnalysis	7.5	12.8			
cusolverSpXcsrcholAnalysisHost	7.5	12.8			
cusolverSpXcsrissymHost					
cusolverSpXcsrluAnalysisHost	7.5	12.8			
cusolverSpXcsrluNnzHost	7.5	12.8			
cusolverSpXcsrmetisndHost	9.2				
cusolverSpXcsrpermHost					
cusolverSpXcsrperm_bufferSizeHost					
cusolverSpXcsrqrAnalysis	7.5				
cusolverSpXcsrqrAnalysisBatched					
cusolverSpXcsrqrAnalysisHost	7.5				
cusolverSpXcsrsymamdHost	7.5				
cusolverSpXcsrsymmdqHost	7.5				
cusolverSpXcsrsymrcmHost					
cusolverSpZcsrcholBufferInfo	7.5	12.8			
cusolverSpZcsrcholBufferInfoHost	7.5	12.8			
cusolverSpZcsrcholDiag	10.1	12.8			
cusolverSpZcsrcholFactor	7.5	12.8			
cusolverSpZcsrcholFactorHost	7.5	12.8			
cusolverSpZcsrcholSolve	7.5	12.8			
cusolverSpZcsrcholSolveHost	7.5	12.8			
cusolverSpZcsrcholZeroPivot	7.5	12.8			
cusolverSpZcsrcholZeroPivotHost	7.5	12.8			
cusolverSpZcsreigsHost					
cusolverSpZcsreigvsi					
cusolverSpZcsreigvsiHost					
cusolverSpZcsrlsqvqrHost					
cusolverSpZcsrlsvchol		12.8			
cusolverSpZcsrlsvcholHost		12.8			
cusolverSpZcsrlsvluHost		12.8			
cusolverSpZcsrlsvqr					hipsolverSpZcsrlsvqr

Table 7.29 – continued from previous page

CUDA	A	D	C	R	HIP
cusolverSpZcsrlsvqrHost					
cusolverSpZcsrluBufferInfoHost	7.5	12.8			
cusolverSpZcsrluExtractHost	7.5	12.8			
cusolverSpZcsrluFactorHost	7.5	12.8			
cusolverSpZcsrluSolveHost	7.5	12.8			
cusolverSpZcsrluZeroPivotHost	7.5	12.8			
cusolverSpZcsrqrBufferInfo	7.5				
cusolverSpZcsrqrBufferInfoBatched					
cusolverSpZcsrqrBufferInfoHost	7.5				
cusolverSpZcsrqrFactor	7.5				
cusolverSpZcsrqrFactorHost	7.5				
cusolverSpZcsrqrSetup	7.5				
cusolverSpZcsrqrSetupHost	7.5				
cusolverSpZcsrqrSolve	7.5				
cusolverSpZcsrqrSolveHost	7.5				
cusolverSpZcsrqrZeroPivot	7.5				
cusolverSpZcsrqrZeroPivotHost	7.5				
cusolverSpZcsrqrsvBatched					
cusolverSpZcsrzfdHost	9.2				

7.9 CURAND API supported by HIP

Note: In the tables that follow the columns marked A, D, C, R, and E mean the following: **A** - Added; **D** - Deprecated; **C** - Changed; **R** - Removed; **E** - Experimental

7.9.1 1. CURAND Data types

CUDA	A	D	C	R	HIP
CURAND_3RD					
CURAND_BINARY_SEARCH					
CURAND_CHOOSE_BEST					
CURAND_DEFINITION					
CURAND_DEVICE_API					
CURAND_DIRECTION_VECTORS_32_JOEKUO6					HIPRAND_DIRECTION_VECTORS_32_JOEKUO6
CURAND_DIRECTION_VECTORS_64_JOEKUO6					HIPRAND_DIRECTION_VECTORS_64_JOEKUO6
CURAND_DISCRETE_GAUSS					
CURAND_FAST_REJECTION					
CURAND_HITR					
CURAND_ITR					
CURAND_KNUTH					
CURAND_M1					
CURAND_M2					
CURAND_ORDERING_PSEUDO_BEST					HIPRAND_ORDERING_PSEUDO_BEST
CURAND_ORDERING_PSEUDO_DEFAULT					HIPRAND_ORDERING_PSEUDO_DEFAULT
CURAND_ORDERING_PSEUDO_DYNAMIC	11.5				HIPRAND_ORDERING_PSEUDO_DYNAMIC
CURAND_ORDERING_PSEUDO_LEGACY	11.0				HIPRAND_ORDERING_PSEUDO_LEGACY
CURAND_ORDERING_PSEUDO_SEEDED					HIPRAND_ORDERING_PSEUDO_SEEDED
CURAND_ORDERING_QUASI_DEFAULT					HIPRAND_ORDERING_QUASI_DEFAULT

Table 7.30 – continued from previous page

CUDA	A	D	C	R	HIP
CURAND_POISSON					
CURAND_REJECTION					
CURAND_RNG_PSEUDO_DEFAULT					HIPRAND_RNG_PSEUDO_DEFAULT
CURAND_RNG_PSEUDO_MRG32K3A					HIPRAND_RNG_PSEUDO_MRG32K3A
CURAND_RNG_PSEUDO_MT19937					HIPRAND_RNG_PSEUDO_MT19937
CURAND_RNG_PSEUDO_MTGP32					HIPRAND_RNG_PSEUDO_MTGP32
CURAND_RNG_PSEUDO_PHILOX4_32_10					HIPRAND_RNG_PSEUDO_PHILOX4_32_10
CURAND_RNG_PSEUDO_XORWOW					HIPRAND_RNG_PSEUDO_XORWOW
CURAND_RNG_QUASI_DEFAULT					HIPRAND_RNG_QUASI_DEFAULT
CURAND_RNG_QUASI_SCRAMBLED_SOBOL32					HIPRAND_RNG_QUASI_SCRAMBLED_SOBOL32
CURAND_RNG_QUASI_SCRAMBLED_SOBOL64					HIPRAND_RNG_QUASI_SCRAMBLED_SOBOL64
CURAND_RNG_QUASI_SOBOL32					HIPRAND_RNG_QUASI_SOBOL32
CURAND_RNG_QUASI_SOBOL64					HIPRAND_RNG_QUASI_SOBOL64
CURAND_RNG_TEST					HIPRAND_RNG_TEST
CURAND_SCRAMBLED_DIRECTION_VECTORS_32_JOEKUO6					HIPRAND_SCRAMBLED_DIRECTION_VECTORS_32
CURAND_SCRAMBLED_DIRECTION_VECTORS_64_JOEKUO6					HIPRAND_SCRAMBLED_DIRECTION_VECTORS_64
CURAND_STATUS_ALLOCATION_FAILED					HIPRAND_STATUS_ALLOCATION_FAILED
CURAND_STATUS_ARCH_MISMATCH					HIPRAND_STATUS_ARCH_MISMATCH
CURAND_STATUS_DOUBLE_PRECISION_REQUIRED					HIPRAND_STATUS_DOUBLE_PRECISION_REQUIR
CURAND_STATUS_INITIALIZATION_FAILED					HIPRAND_STATUS_INITIALIZATION_FAILED
CURAND_STATUS_INTERNAL_ERROR					HIPRAND_STATUS_INTERNAL_ERROR
CURAND_STATUS_LAUNCH_FAILURE					HIPRAND_STATUS_LAUNCH_FAILURE
CURAND_STATUS_LENGTH_NOT_MULTIPLE					HIPRAND_STATUS_LENGTH_NOT_MULTIPLE
CURAND_STATUS_NOT_INITIALIZED					HIPRAND_STATUS_NOT_INITIALIZED
CURAND_STATUS_OUT_OF_RANGE					HIPRAND_STATUS_OUT_OF_RANGE
CURAND_STATUS_PREEXISTING_FAILURE					HIPRAND_STATUS_PREEXISTING_FAILURE
CURAND_STATUS_SUCCESS					HIPRAND_STATUS_SUCCESS
CURAND_STATUS_TYPE_ERROR					HIPRAND_STATUS_TYPE_ERROR
CURAND_STATUS_VERSION_MISMATCH					HIPRAND_STATUS_VERSION_MISMATCH
curandDirectionVectorSet					hiprandDirectionVectorSet_t
curandDirectionVectorSet_t					hiprandDirectionVectorSet_t
curandDirectionVectors32_t					hiprandDirectionVectors32_t
curandDirectionVectors64_t					hiprandDirectionVectors64_t
curandDiscreteDistribution_st					hiprandDiscreteDistribution_st
curandDiscreteDistribution_t					hiprandDiscreteDistribution_t
curandDistributionM2Shift_st					
curandDistributionM2Shift_t					
curandDistributionShift_st					
curandDistributionShift_t					
curandDistribution_st					
curandDistribution_t					
curandGenerator_st					hiprandGenerator_st
curandGenerator_t					hiprandGenerator_t
curandHistogramM2K_st					
curandHistogramM2K_t					
curandHistogramM2V_st					
curandHistogramM2V_t					
curandHistogramM2_st					
curandHistogramM2_t					
curandMethod					

Table 7.30 – continued from previous page

CUDA	A	D	C	R	HIP
curandMethod_t					
curandOrdering					hiprandOrdering
curandOrdering_t					hiprandOrdering_t
curandRngType					hiprandRngType_t
curandRngType_t					hiprandRngType_t
curandState					hiprandState
curandStateMRG32k3a					hiprandStateMRG32k3a
curandStateMRG32k3a_t					hiprandStateMRG32k3a_t
curandStateMtgp32					hiprandStateMtgp32
curandStateMtgp32_t					hiprandStateMtgp32_t
curandStatePhilox4_32_10					hiprandStatePhilox4_32_10
curandStatePhilox4_32_10_t					hiprandStatePhilox4_32_10_t
curandStateScrambledSobol32					hiprandStateScrambledSobol32
curandStateScrambledSobol32_t					hiprandStateScrambledSobol32_t
curandStateScrambledSobol64					hiprandStateScrambledSobol64
curandStateScrambledSobol64_t					hiprandStateScrambledSobol64_t
curandStateSobol32					hiprandStateSobol32
curandStateSobol32_t					hiprandStateSobol32_t
curandStateSobol64					hiprandStateSobol64
curandStateSobol64_t					hiprandStateSobol64_t
curandStateXORWOW					hiprandStateXORWOW
curandStateXORWOW_t					hiprandStateXORWOW_t
curandState_t					hiprandState_t
curandStatus					hiprandStatus
curandStatus_t					hiprandStatus_t

7.9.2 2. Host API Functions

CUDA	A	D	C	R	HIP	A	D	C	R	E
curandCreateGenerator					hiprandCreateGenerator	1.5.0				
curandCreateGeneratorHost					hiprandCreateGeneratorHost	1.5.0				
curandCreatePoissonDistrib					hiprandCreatePoissonDistril	1.5.0				
curandDestroyDistribution					hiprandDestroyDistribution	1.5.0				
curandDestroyGenerator					hiprandDestroyGenerator	1.5.0				
curandGenerate					hiprandGenerate	1.5.0				
curandGenerateLogNormal					hiprandGenerateLogNormal	1.5.0				
curandGenerateLogNormalDou					hiprandGenerateLogNormalDo	1.5.0				
curandGenerateLongLong					hiprandGenerateLongLong	5.5.0				
curandGenerateNormal					hiprandGenerateNormal	1.5.0				
curandGenerateNormalDouble					hiprandGenerateNormalDoubl	1.5.0				
curandGeneratePoisson					hiprandGeneratePoisson	1.5.0				
curandGenerateSeeds					hiprandGenerateSeeds	1.5.0				
curandGenerateUniform					hiprandGenerateUniform	1.5.0				
curandGenerateUniformDoubl					hiprandGenerateUniformDoub	1.5.0				
curandGetDirectionVectors3					hiprandGetDirectionVectors	6.0.0				
curandGetDirectionVectors6					hiprandGetDirectionVectors	6.0.0				
curandGetProperty	8.0									
curandGetScrambleConstants					hiprandGetScrambleConstant	6.0.0				
curandGetScrambleConstants					hiprandGetScrambleConstant	6.0.0				
curandGetVersion					hiprandGetVersion	1.5.0				
curandMakeMTGP32Constants					hiprandMakeMTGP32Constants	1.5.0				
curandMakeMTGP32KernelStat					hiprandMakeMTGP32KernelSta	1.5.0				
curandSetGeneratorOffset					hiprandSetGeneratorOffset	1.5.0				
curandSetGeneratorOrdering					hiprandSetGeneratorOrderin	6.2.0				
curandSetPseudoRandomGener					hiprandSetPseudoRandomGene	1.5.0				
curandSetQuasiRandomGenera					hiprandSetQuasiRandomGener	1.5.0				
curandSetStream					hiprandSetStream	1.5.0				

7.9.3 3. Device API Functions

CUDA	A	D	C	R	HIP	A	D	C	R	E
__curand_umul	11.5									
curand					hiprand	1.5.0				
curand_Philox4x32_10										
curand_discrete					hiprand_discrete	1.5.0				
curand_discrete4					hiprand_discrete4	1.5.0				
curand_init					hiprand_init	1.5.0				
curand_log_normal					hiprand_log_normal	1.5.0				
curand_log_normal2					hiprand_log_normal2	1.5.0				
curand_log_normal2_double					hiprand_log_normal2_doub	1.5.0				
curand_log_normal4					hiprand_log_normal4	1.5.0				
curand_log_normal4_double					hiprand_log_normal4_doub	1.5.0				
curand_log_normal_double					hiprand_log_normal_doubl	1.5.0				
curand_mtgp32_single										
curand_mtgp32_single_specif										
curand_mtgp32_specific										
curand_normal					hiprand_normal	1.5.0				
curand_normal2					hiprand_normal2	1.5.0				
curand_normal2_double					hiprand_normal2_double	1.5.0				
curand_normal4					hiprand_normal4	1.5.0				
curand_normal4_double					hiprand_normal4_double	1.5.0				
curand_normal_double					hiprand_normal_double	1.5.0				
curand_poisson					hiprand_poisson	1.5.0				
curand_poisson4					hiprand_poisson4	1.5.0				
curand_uniform					hiprand_uniform	1.5.0				
curand_uniform2_double					hiprand_uniform2_double	1.5.0				
curand_uniform4					hiprand_uniform4	1.5.0				
curand_uniform4_double					hiprand_uniform4_double	1.5.0				
curand_uniform_double					hiprand_uniform_double	1.5.0				

7.10 CUFFT API supported by HIP

Note: In the tables that follow the columns marked A, D, C, R, and E mean the following: **A** - Added; **D** - Deprecated; **C** - Changed; **R** - Removed; **E** - Experimental

7.10.1 1. CUFFT Data types

CUDA	A	D	C	R	HIP	A
CUFFT_ALLOC_FAILED					HIPFFT_ALLOC_FAILED	1
CUFFT_C2C					HIPFFT_C2C	1
CUFFT_C2R					HIPFFT_C2R	1
CUFFT_CB_LD_COMPLEX					HIPFFT_CB_LD_COMPLEX	4
CUFFT_CB_LD_COMPLEX_DOUBLE					HIPFFT_CB_LD_COMPLEX_DOUBLE	4
CUFFT_CB_LD_REAL					HIPFFT_CB_LD_REAL	4
CUFFT_CB_LD_REAL_DOUBLE					HIPFFT_CB_LD_REAL_DOUBLE	4
CUFFT_CB_ST_COMPLEX					HIPFFT_CB_ST_COMPLEX	4
CUFFT_CB_ST_COMPLEX_DOUBLE					HIPFFT_CB_ST_COMPLEX_DOUBLE	4
CUFFT_CB_ST_REAL					HIPFFT_CB_ST_REAL	4
CUFFT_CB_ST_REAL_DOUBLE					HIPFFT_CB_ST_REAL_DOUBLE	4
CUFFT_CB_UNDEFINED					HIPFFT_CB_UNDEFINED	4
CUFFT_COMPATIBILITY_DEFAULT						
CUFFT_COMPATIBILITY_FFTW_PADDING						
CUFFT_COPY_DEVICE_TO_DEVICE					HIPFFT_COPY_DEVICE_TO_DEVICE	6
CUFFT_COPY_DEVICE_TO_HOST					HIPFFT_COPY_DEVICE_TO_HOST	6
CUFFT_COPY_HOST_TO_DEVICE					HIPFFT_COPY_HOST_TO_DEVICE	6
CUFFT_COPY_UNDEFINED					HIPFFT_COPY_UNDEFINED	6
CUFFT_D2Z					HIPFFT_D2Z	1
CUFFT_EXEC_FAILED					HIPFFT_EXEC_FAILED	1
CUFFT_FORMAT_UNDEFINED					HIPFFT_FORMAT_UNDEFINED	6
CUFFT_FORWARD					HIPFFT_FORWARD	1
CUFFT_INCOMPLETE_PARAMETER_LIST					HIPFFT_INCOMPLETE_PARAMETER_LIST	1
CUFFT_INTERNAL_ERROR					HIPFFT_INTERNAL_ERROR	1
CUFFT_INVALID_DEVICE					HIPFFT_INVALID_DEVICE	1
CUFFT_INVALID_PLAN					HIPFFT_INVALID_PLAN	1
CUFFT_INVALID_SIZE					HIPFFT_INVALID_SIZE	1
CUFFT_INVALID_TYPE					HIPFFT_INVALID_TYPE	1
CUFFT_INVALID_VALUE					HIPFFT_INVALID_VALUE	1
CUFFT_INVERSE					HIPFFT_BACKWARD	1
CUFFT_LICENSE_ERROR						
CUFFT_NOT_IMPLEMENTED					HIPFFT_NOT_IMPLEMENTED	1
CUFFT_NOT_SUPPORTED	8.0				HIPFFT_NOT_SUPPORTED	1
CUFFT_NO_WORKSPACE					HIPFFT_NO_WORKSPACE	1
CUFFT_PARSE_ERROR					HIPFFT_PARSE_ERROR	1
CUFFT_QUERY_1D_FACTORS						
CUFFT_QUERY_UNDEFINED						
CUFFT_R2C					HIPFFT_R2C	1
CUFFT_SETUP_FAILED					HIPFFT_SETUP_FAILED	1
CUFFT_SUCCESS					HIPFFT_SUCCESS	1
CUFFT_UNALIGNED_DATA					HIPFFT_UNALIGNED_DATA	1
CUFFT_WORKAREA_MINIMAL	9.2					
CUFFT_WORKAREA_PERFORMANCE						
CUFFT_WORKAREA_USER	9.2					

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CUDA	A	D	C	R	HIP	A
CUFFT_XT_FORMAT_1D_INPUT_SHUFFLED					HIPFFT_XT_FORMAT_1D_INPUT_SHUFFLED	6
CUFFT_XT_FORMAT_DISTRIBUTED_INPUT	11.8					
CUFFT_XT_FORMAT_DISTRIBUTED_OUTPUT	11.8					
CUFFT_XT_FORMAT_INPLACE					HIPFFT_XT_FORMAT_INPLACE	6
CUFFT_XT_FORMAT_INPLACE_SHUFFLED					HIPFFT_XT_FORMAT_INPLACE_SHUFFLED	6
CUFFT_XT_FORMAT_INPUT					HIPFFT_XT_FORMAT_INPUT	6
CUFFT_XT_FORMAT_OUTPUT					HIPFFT_XT_FORMAT_OUTPUT	6
CUFFT_Z2D					HIPFFT_Z2D	1
CUFFT_Z2Z					HIPFFT_Z2Z	1
MAX_CUFFT_ERROR						
NVFFT_PLAN_PROPERTY_INT64_MAX_NUM_HOST_THREADS	12.5					
NVFFT_PLAN_PROPERTY_INT64_PATIENT_JIT	12.4					
cudaLibXtDesc					hipLibXtDesc	6
cudaLibXtDesc_t					hipLibXtDesc_t	6
cufftBox3d	11.8					
cufftBox3d_t	11.8					
cufftCompatibility						
cufftCompatibility_t						
cufftComplex					hipfftComplex	1
cufftDoubleComplex					hipfftDoubleComplex	1
cufftDoubleReal					hipfftDoubleReal	1
cufftHandle					hipfftHandle	1
cufftProperty	12.4					
cufftProperty_t	12.4					
cufftReal					hipfftReal	1
cufftResult					hipfftResult	1
cufftResult_t					hipfftResult_t	1
cufftType					hipfftType	1
cufftType_t					hipfftType_t	1
cufftXt1dFactors						
cufftXt1dFactors_t						
cufftXtCallbackType					hipfftXtCallbackType	4
cufftXtCallbackType_t					hipfftXtCallbackType_t	4
cufftXtCopyType					hipfftXtCopyType	6
cufftXtCopyType_t					hipfftXtCopyType_t	6
cufftXtQueryType						
cufftXtQueryType_t						
cufftXtSubFormat					hipfftXtSubFormat	6
cufftXtSubFormat_t					hipfftXtSubFormat_t	6
cufftXtWorkAreaPolicy	9.2					
cufftXtWorkAreaPolicy_t	9.2					

7.10.2 2. CUFFT API functions

CUDA	A	D	C	R	HIP	A	D	C	R	E
cufftCallbackLoadC					hipfftCallbackLoadC	4.3.0				
cufftCallbackLoadD					hipfftCallbackLoadD	4.3.0				
cufftCallbackLoadR					hipfftCallbackLoadR	4.3.0				
cufftCallbackLoadZ					hipfftCallbackLoadZ	4.3.0				

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Table 7.32 – continued from previous page

CUDA	A	D	C	R	HIP	A	D	C	R	E
cufftCallbackStoreC					hipfftCallbackStoreC	4.3.0				
cufftCallbackStoreD					hipfftCallbackStoreD	4.3.0				
cufftCallbackStoreR					hipfftCallbackStoreR	4.3.0				
cufftCallbackStoreZ					hipfftCallbackStoreZ	4.3.0				
cufftCreate					hipfftCreate	1.7.0				
cufftDestroy					hipfftDestroy	1.7.0				
cufftEstimate1d					hipfftEstimate1d	1.7.0				
cufftEstimate2d					hipfftEstimate2d	1.7.0				
cufftEstimate3d					hipfftEstimate3d	1.7.0				
cufftEstimateMany					hipfftEstimateMany	1.7.0				
cufftExecC2C					hipfftExecC2C	1.7.0				
cufftExecC2R					hipfftExecC2R	1.7.0				
cufftExecD2Z					hipfftExecD2Z	1.7.0				
cufftExecR2C					hipfftExecR2C	1.7.0				
cufftExecZ2D					hipfftExecZ2D	1.7.0				
cufftExecZ2Z					hipfftExecZ2Z	1.7.0				
cufftGetPlanPropertyInt64	12.4									
cufftGetProperty	8.0				hipfftGetProperty	2.6.0				
cufftGetSize					hipfftGetSize	1.7.0				
cufftGetSize1d					hipfftGetSize1d	1.7.0				
cufftGetSize2d					hipfftGetSize2d	1.7.0				
cufftGetSize3d					hipfftGetSize3d	1.7.0				
cufftGetSizeMany					hipfftGetSizeMany	1.7.0				
cufftGetSizeMany64	7.5				hipfftGetSizeMany64	1.7.0				
cufftGetVersion					hipfftGetVersion	1.7.0				
cufftMakePlan1d					hipfftMakePlan1d	1.7.0				
cufftMakePlan2d					hipfftMakePlan2d	1.7.0				
cufftMakePlan3d					hipfftMakePlan3d	1.7.0				
cufftMakePlanMany					hipfftMakePlanMany	1.7.0				
cufftMakePlanMany64	7.5				hipfftMakePlanMany64	1.7.0				
cufftPlan1d					hipfftPlan1d	1.7.0				
cufftPlan2d					hipfftPlan2d	1.7.0				
cufftPlan3d					hipfftPlan3d	1.7.0				
cufftPlanMany					hipfftPlanMany	1.7.0				
cufftResetPlanProperty	12.4									
cufftSetAutoAllocation					hipfftSetAutoAllocation	1.7.0				
cufftSetPlanPropertyInt64	12.4									
cufftSetStream					hipfftSetStream	1.7.0				
cufftSetWorkArea					hipfftSetWorkArea	1.7.0				
cufftXtClearCallback					hipfftXtClearCallback	4.3.0				
cufftXtExec	8.0				hipfftXtExec	5.6.0				
cufftXtExecDescriptor	8.0				hipfftXtExecDescriptor	6.0.0				
cufftXtExecDescriptorC2C					hipfftXtExecDescriptorC2C	6.0.0				
cufftXtExecDescriptorC2R					hipfftXtExecDescriptorC2R	6.0.0				
cufftXtExecDescriptorD2Z					hipfftXtExecDescriptorD2Z	6.0.0				
cufftXtExecDescriptorR2C					hipfftXtExecDescriptorR2C	6.0.0				
cufftXtExecDescriptorZ2D					hipfftXtExecDescriptorZ2D	6.0.0				
cufftXtExecDescriptorZ2Z					hipfftXtExecDescriptorZ2Z	6.0.0				
cufftXtFree					hipfftXtFree	6.0.0				
cufftXtGetSizeMany	8.0				hipfftXtGetSizeMany	5.6.0				

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Table 7.32 – continued from previous page

CUDA	A	D	C	R	HIP	A	D	C	R	E
cufftXtMakePlanMany	8.0				hipfftXtMakePlanMany	5.6.0				
cufftXtMalloc					hipfftXtMalloc	6.0.0				
cufftXtMemcpy					hipfftXtMemcpy	6.0.0				
cufftXtQueryPlan										
cufftXtSetCallback					hipfftXtSetCallback	4.3.0				
cufftXtSetCallbackSharedSize					hipfftXtSetCallbackSharedSize	4.3.0				
cufftXtSetDistribution	11.8									
cufftXtSetGPUs					hipfftXtSetGPUs	6.0.0				
cufftXtSetWorkArea										
cufftXtSetWorkAreaPolicy	9.2									

7.11 CUTENSOR API supported by HIP

Note: In the tables that follow the columns marked A, D, C, R, and E mean the following: **A** - Added; **D** - Deprecated; **C** - Changed; **R** - Removed; **E** - Experimental

7.11.1 1. CUTENSOR Data types

CUDA	A	D	C	R	HIP
CUTENSORMG_ALGO_DEFAULT	1.4.0.0				
CUTENSORMG_CONTRACTION_FIND_ATTRIBUTE_MAX	1.5.0.0				
CUTENSOR_ALGO_DEFAULT	1.0.1.0				HIPTENSOR_ALGO_DEFAULT
CUTENSOR_ALGO_DEFAULT_PATIENT	1.4.0.0				HIPTENSOR_ALGO_DEFAULT_PATI
CUTENSOR_ALGO_GETT	1.0.1.0				
CUTENSOR_ALGO_TGETT	1.0.1.0				
CUTENSOR_ALGO_TTGT	1.0.1.0				
CUTENSOR_AUTOTUNE_INCREMENTAL	1.2.0.0			2.0.0.0	HIPTENSOR_AUTOTUNE_MODE_INC
CUTENSOR_AUTOTUNE_MODE_INCREMENTAL	2.0.0.0				HIPTENSOR_AUTOTUNE_MODE_INC
CUTENSOR_AUTOTUNE_MODE_NONE	2.0.0.0				HIPTENSOR_AUTOTUNE_MODE_NON
CUTENSOR_AUTOTUNE_NONE	1.2.0.0			2.0.0.0	HIPTENSOR_AUTOTUNE_MODE_NON
CUTENSOR_CACHE_MODE_NONE	1.2.0.0				HIPTENSOR_CACHE_MODE_NONE
CUTENSOR_CACHE_MODE_PEDANTIC	1.2.0.0				HIPTENSOR_CACHE_MODE_PEDANT
CUTENSOR_COMPUTE_16BF	1.0.1.0			2.0.0.0	HIPTENSOR_COMPUTE_DESC_16BF
CUTENSOR_COMPUTE_16F	1.0.1.0			2.0.0.0	HIPTENSOR_COMPUTE_DESC_16F
CUTENSOR_COMPUTE_32F	1.0.1.0			2.0.0.0	HIPTENSOR_COMPUTE_DESC_32F
CUTENSOR_COMPUTE_32I	1.0.1.0			2.0.0.0	HIPTENSOR_COMPUTE_DESC_32I
CUTENSOR_COMPUTE_32U	1.0.1.0			2.0.0.0	HIPTENSOR_COMPUTE_DESC_32U
CUTENSOR_COMPUTE_3XTF32	2.0.0.0				
CUTENSOR_COMPUTE_64F	1.0.1.0			2.0.0.0	HIPTENSOR_COMPUTE_DESC_64F
CUTENSOR_COMPUTE_8I	1.0.1.0			2.0.0.0	HIPTENSOR_COMPUTE_DESC_8I
CUTENSOR_COMPUTE_8U	1.0.1.0			2.0.0.0	HIPTENSOR_COMPUTE_DESC_8U
CUTENSOR_COMPUTE_TF32	1.0.1.0			2.0.0.0	
CUTENSOR_C_16BF	2.0.0.0				HIPTENSOR_C_16BF
CUTENSOR_C_16F	2.0.0.0				HIPTENSOR_C_16F
CUTENSOR_C_16I	2.0.0.0				HIPTENSOR_C_16I
CUTENSOR_C_16U	2.0.0.0				HIPTENSOR_C_16U
CUTENSOR_C_32F	2.0.0.0				HIPTENSOR_C_32F
CUTENSOR_C_32I	2.0.0.0				HIPTENSOR_C_32I

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CUDA	A	D	C	R	HIP
CUTENSOR_C_32U	2.0.0.0				HIPTENSOR_C_32U
CUTENSOR_C_4I	2.0.0.0				HIPTENSOR_C_4I
CUTENSOR_C_4U	2.0.0.0				HIPTENSOR_C_4U
CUTENSOR_C_64F	2.0.0.0				HIPTENSOR_C_64F
CUTENSOR_C_64I	2.0.0.0				HIPTENSOR_C_64I
CUTENSOR_C_64U	2.0.0.0				HIPTENSOR_C_64U
CUTENSOR_C_8I	2.0.0.0				HIPTENSOR_C_8I
CUTENSOR_C_8U	2.0.0.0				HIPTENSOR_C_8U
CUTENSOR_C_MIN_16F	1.0.1.0	1.2.0.0		2.0.0.0	
CUTENSOR_C_MIN_32F	1.0.1.0	1.2.0.0		2.0.0.0	
CUTENSOR_C_MIN_64F	1.0.1.0	1.2.0.0		2.0.0.0	
CUTENSOR_C_MIN_TF32	1.0.1.0	1.2.0.0		2.0.0.0	
CUTENSOR_JIT_MODE_DEFAULT	2.0.0.0				HIPTENSOR_JIT_MODE_DEFAULT
CUTENSOR_JIT_MODE_NONE	2.0.0.0				HIPTENSOR_JIT_MODE_NONE
CUTENSOR_MG_DEVICE_HOST	1.4.0.0				
CUTENSOR_MG_DEVICE_HOST_PINNED	1.4.0.0				
CUTENSOR_OPERATION_DESCRIPTOR_FLOPS	2.0.0.0				HIPTENSOR_OPERATION_DESCRIP
CUTENSOR_OPERATION_DESCRIPTOR_MOVED_BYTES	2.0.0.0				HIPTENSOR_OPERATION_DESCRIP
CUTENSOR_OPERATION_DESCRIPTOR_PADDING_LEFT	2.0.0.0				HIPTENSOR_OPERATION_DESCRIP
CUTENSOR_OPERATION_DESCRIPTOR_PADDING_RIGHT	2.0.0.0				HIPTENSOR_OPERATION_DESCRIP
CUTENSOR_OPERATION_DESCRIPTOR_PADDING_VALUE	2.0.0.0				HIPTENSOR_OPERATION_DESCRIP
CUTENSOR_OPERATION_DESCRIPTOR_SCALAR_TYPE	2.0.0.0				HIPTENSOR_OPERATION_DESCRIP
CUTENSOR_OPERATION_DESCRIPTOR_TAG	2.0.0.0				HIPTENSOR_OPERATION_DESCRIP
CUTENSOR_OP_ABS	1.0.1.0				HIPTENSOR_OP_ABS
CUTENSOR_OP_ACOS	1.0.1.0				HIPTENSOR_OP_ACOS
CUTENSOR_OP_ACOSH	1.0.1.0				HIPTENSOR_OP_ACOSH
CUTENSOR_OP_ADD	1.0.1.0				HIPTENSOR_OP_ADD
CUTENSOR_OP_ASIN	1.0.1.0				HIPTENSOR_OP_ASIN
CUTENSOR_OP_ASINH	1.0.1.0				HIPTENSOR_OP_ASINH
CUTENSOR_OP_ATAN	1.0.1.0				HIPTENSOR_OP_ATAN
CUTENSOR_OP_ATANH	1.0.1.0				HIPTENSOR_OP_ATANH
CUTENSOR_OP_CEIL	1.0.1.0				HIPTENSOR_OP_CEIL
CUTENSOR_OP_CONJ	1.0.1.0				HIPTENSOR_OP_CONJ
CUTENSOR_OP_COS	1.0.1.0				HIPTENSOR_OP_COS
CUTENSOR_OP_COSH	1.0.1.0				HIPTENSOR_OP_COSH
CUTENSOR_OP_EXP	1.0.1.0				HIPTENSOR_OP_EXP
CUTENSOR_OP_FLOOR	1.0.1.0				HIPTENSOR_OP_FLOOR
CUTENSOR_OP_IDENTITY	1.0.1.0				HIPTENSOR_OP_IDENTITY
CUTENSOR_OP_LOG	1.0.1.0				HIPTENSOR_OP_LOG
CUTENSOR_OP_MAX	1.0.1.0				HIPTENSOR_OP_MAX
CUTENSOR_OP_MIN	1.0.1.0				HIPTENSOR_OP_MIN
CUTENSOR_OP_MISH	2.0.0.0				
CUTENSOR_OP_MUL	1.0.1.0				HIPTENSOR_OP_MUL
CUTENSOR_OP_NEG	1.0.1.0				HIPTENSOR_OP_NEG
CUTENSOR_OP_RCP	1.0.1.0				HIPTENSOR_OP_RCP
CUTENSOR_OP_RELU	1.0.1.0				HIPTENSOR_OP_RELU
CUTENSOR_OP_SIGMOID	1.0.1.0				HIPTENSOR_OP_SIGMOID
CUTENSOR_OP_SIN	1.0.1.0				HIPTENSOR_OP_SIN
CUTENSOR_OP_SINH	1.0.1.0				HIPTENSOR_OP_SINH
CUTENSOR_OP_SOFT_PLUS	2.0.0.0				

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CUDA	A	D	C	R	HIP
CUTENSOR_OP_SOFT_SIGN	2.0.0.0				
CUTENSOR_OP_SQRT	1.0.1.0				HIPTENSOR_OP_SQRT
CUTENSOR_OP_SWISH	2.0.0.0				
CUTENSOR_OP_TAN	1.0.1.0				HIPTENSOR_OP_TAN
CUTENSOR_OP_TANH	1.0.1.0				HIPTENSOR_OP_TANH
CUTENSOR_OP_UNKNOWN	1.0.1.0				HIPTENSOR_OP_UNKNOWN
CUTENSOR_PLAN_PREFERENCE_ALGO	2.0.0.0				HIPTENSOR_PLAN_PREFERENCE_A
CUTENSOR_PLAN_PREFERENCE_AUTOTUNE_MODE	2.0.0.0				HIPTENSOR_PLAN_PREFERENCE_A
CUTENSOR_PLAN_PREFERENCE_CACHE_MODE	2.0.0.0				HIPTENSOR_PLAN_PREFERENCE_C
CUTENSOR_PLAN_PREFERENCE_INCREMENTAL_COUNT	2.0.0.0				HIPTENSOR_PLAN_PREFERENCE_I
CUTENSOR_PLAN_PREFERENCE_JIT	2.0.0.0				HIPTENSOR_PLAN_PREFERENCE_J
CUTENSOR_PLAN_PREFERENCE_KERNEL_RANK	2.0.0.0				HIPTENSOR_PLAN_PREFERENCE_K
CUTENSOR_PLAN_REQUIRED_WORKSPACE	2.0.0.0				HIPTENSOR_PLAN_REQUIRED_WOR
CUTENSOR_R_16BF	2.0.0.0				HIPTENSOR_R_16BF
CUTENSOR_R_16F	2.0.0.0				HIPTENSOR_R_16F
CUTENSOR_R_16I	2.0.0.0				HIPTENSOR_R_16I
CUTENSOR_R_16U	2.0.0.0				HIPTENSOR_R_16U
CUTENSOR_R_32F	2.0.0.0				HIPTENSOR_R_32F
CUTENSOR_R_32I	2.0.0.0				HIPTENSOR_R_32I
CUTENSOR_R_32U	2.0.0.0				HIPTENSOR_R_32U
CUTENSOR_R_4I	2.0.0.0				HIPTENSOR_R_4I
CUTENSOR_R_4U	2.0.0.0				HIPTENSOR_R_4U
CUTENSOR_R_64F	2.0.0.0				HIPTENSOR_R_64F
CUTENSOR_R_64I	2.0.0.0				HIPTENSOR_R_64I
CUTENSOR_R_64U	2.0.0.0				HIPTENSOR_R_64U
CUTENSOR_R_8I	2.0.0.0				HIPTENSOR_R_8I
CUTENSOR_R_8U	2.0.0.0				HIPTENSOR_R_8U
CUTENSOR_R_MIN_16BF	1.0.1.0	1.2.0.0		2.0.0.0	
CUTENSOR_R_MIN_16F	1.0.1.0	1.2.0.0		2.0.0.0	
CUTENSOR_R_MIN_32F	1.0.1.0	1.2.0.0		2.0.0.0	
CUTENSOR_R_MIN_32I	1.0.1.0	1.2.0.0		2.0.0.0	
CUTENSOR_R_MIN_32U	1.0.1.0	1.2.0.0		2.0.0.0	
CUTENSOR_R_MIN_64F	1.0.1.0	1.2.0.0		2.0.0.0	
CUTENSOR_R_MIN_8I	1.0.1.0	1.2.0.0		2.0.0.0	
CUTENSOR_R_MIN_8U	1.0.1.0	1.2.0.0		2.0.0.0	
CUTENSOR_R_MIN_TF32	1.0.1.0	1.2.0.0		2.0.0.0	
CUTENSOR_STATUS_ALLOC_FAILED	1.0.1.0				HIPTENSOR_STATUS_ALLOC_FAIL
CUTENSOR_STATUS_ARCH_MISMATCH	1.0.1.0				HIPTENSOR_STATUS_ARCH_MISMA
CUTENSOR_STATUS_CUBLAS_ERROR	1.0.1.0				
CUTENSOR_STATUS_CUDA_ERROR	1.0.1.0				
CUTENSOR_STATUS_EXECUTION_FAILED	1.0.1.0				HIPTENSOR_STATUS_EXECUTION_
CUTENSOR_STATUS_INSUFFICIENT_DRIVER	1.0.1.0				HIPTENSOR_STATUS_INSUFFICIE
CUTENSOR_STATUS_INSUFFICIENT_WORKSPACE	1.0.1.0				HIPTENSOR_STATUS_INSUFFICIE
CUTENSOR_STATUS_INTERNAL_ERROR	1.0.1.0				HIPTENSOR_STATUS_INTERNAL_E
CUTENSOR_STATUS_INVALID_VALUE	1.0.1.0				HIPTENSOR_STATUS_INVALID_VA
CUTENSOR_STATUS_IO_ERROR	1.2.0.0				HIPTENSOR_STATUS_IO_ERROR
CUTENSOR_STATUS_LICENSE_ERROR	1.0.1.0				
CUTENSOR_STATUS_MAPPING_ERROR	1.0.1.0				
CUTENSOR_STATUS_NOT_INITIALIZED	1.0.1.0				HIPTENSOR_STATUS_NOT_INITIA
CUTENSOR_STATUS_NOT_SUPPORTED	1.0.1.0				HIPTENSOR_STATUS_NOT_SUPPOR

Table 7.33 – continued from previous page

CUDA	A	D	C	R	HIP
CUTENSOR_STATUS_SUCCESS	1.0.1.0				HIPTENSOR_STATUS_SUCCESS
CUTENSOR_WORKSPACE_DEFAULT	2.0.0.0				HIPTENSOR_WORKSPACE_DEFAULT
CUTENSOR_WORKSPACE_MAX	1.0.1.0				HIPTENSOR_WORKSPACE_MAX
CUTENSOR_WORKSPACE_MIN	1.0.1.0				HIPTENSOR_WORKSPACE_MIN
CUTENSOR_WORKSPACE_RECOMMENDED	1.0.1.0			2.0.0.0	
cutensorAlgo_t	1.0.1.0				hiptensorAlgo_t
cutensorAutotuneMode_t	1.2.0.0		2.0.0.0		hiptensorAutotuneMode_t
cutensorCacheMode_t	1.2.0.0				hiptensorCacheMode_t
cutensorComputeDescriptor	2.0.0.0				
cutensorComputeDescriptor_t	2.0.0.0				hiptensorComputeDescriptor_
cutensorComputeType_t					hiptensorComputeDescriptor_
cutensorContractionPlan_t	1.0.1.0			2.0.0.0	hiptensorContractionPlan_t
cutensorDataType_t	2.0.0.0				hiptensorDataType_t
cutensorHandle	2.0.0.0				hiptensorHandle
cutensorHandle_t	1.0.1.0				hiptensorHandle_t
cutensorJitMode_t	2.0.0.0				hiptensorJitMode_t
cutensorLoggerCallback_t	1.3.2.0				hiptensorLoggerCallback_t
cutensorMgAlgo_t	1.4.0.0				
cutensorMgContractionDescriptor_s	1.4.0.0				
cutensorMgContractionDescriptor_t	1.4.0.0				
cutensorMgContractionFindAttribute_t	1.5.0.0				
cutensorMgContractionFind_s	1.4.0.0				
cutensorMgContractionFind_t	1.4.0.0				
cutensorMgContractionPlan_s	1.4.0.0				
cutensorMgContractionPlan_t	1.4.0.0				
cutensorMgCopyDescriptor_s	1.4.0.0				
cutensorMgCopyDescriptor_t	1.4.0.0				
cutensorMgCopyPlan_s	1.4.0.0				
cutensorMgCopyPlan_t	1.4.0.0				
cutensorMgHandle_s	1.4.0.0				
cutensorMgHandle_t	1.4.0.0				
cutensorMgHostDevice_t	1.4.0.0				
cutensorMgTensorDescriptor_s	1.4.0.0				
cutensorMgTensorDescriptor_t	1.4.0.0				
cutensorOperationDescriptor	2.0.0.0				hiptensorOperationDescripto
cutensorOperationDescriptorAttribute_t	2.0.0.0				hiptensorOperationDescripto
cutensorOperationDescriptor_t	2.0.0.0				hiptensorOperationDescripto
cutensorOperator_t	1.0.1.0				hiptensorOperator_t
cutensorPlan	2.0.0.0				hiptensorPlan
cutensorPlanAttribute_t	2.0.0.0				hiptensorPlanAttribute_t
cutensorPlanPreference	2.0.0.0				hiptensorPlanPreference
cutensorPlanPreferenceAttribute_t	2.0.0.0				hiptensorPlanPreferenceAttr
cutensorPlanPreference_t	2.0.0.0				hiptensorPlanPreference_t
cutensorPlan_t	2.0.0.0				hiptensorPlan_t
cutensorStatus_t	1.0.1.0				hiptensorStatus_t
cutensorTensorDescriptor	2.0.0.0				hiptensorTensorDescriptor
cutensorTensorDescriptor_t	1.0.1.0				hiptensorTensorDescriptor_t
cutensorWorksizePreference_t	1.0.1.0				hiptensorWorksizePreference

7.11.2 2. CUTENSOR Function Reference

CUDA	A	D	C	R	HIP
cutensorContract	2.0.0.0				hiptensorContract
cutensorContractTrinary	2.2.0.0				
cutensorContraction	1.0.1.0			2.0.0.0	hiptensorContraction
cutensorCreate	1.7.0.0		2.0.0.0		hiptensorCreate
cutensorCreateContraction	2.0.0.0				hiptensorCreateContraction
cutensorCreateContractionTrinary	2.2.0.0				
cutensorCreateElementwiseBinary	2.0.0.0				hiptensorCreateElementwiseBinary
cutensorCreateElementwiseTrinary	2.0.0.0				hiptensorCreateElementwiseTrinary
cutensorCreatePermutation	2.0.0.0				hiptensorCreatePermutation
cutensorCreatePlan	2.0.0.0				hiptensorCreatePlan
cutensorCreatePlanPreference	2.0.0.0				hiptensorCreatePlanPreference
cutensorCreateReduction	2.0.0.0				hiptensorCreateReduction
cutensorCreateTensorDescriptor	2.0.0.0				hiptensorCreateTensorDescriptor
cutensorDestroy	1.7.0.0		2.0.0.0		hiptensorDestroy
cutensorDestroyOperationDescriptor	2.0.0.0				hiptensorDestroyOperationDescriptor
cutensorDestroyPlan	2.0.0.0				hiptensorDestroyPlan
cutensorDestroyPlanPreference	2.0.0.0				hiptensorDestroyPlanPreference
cutensorDestroyTensorDescriptor	2.0.0.0				hiptensorDestroyTensorDescriptor
cutensorElementwiseBinaryExecute	2.0.0.0				hiptensorElementwiseBinaryExecute
cutensorElementwiseTrinaryExecute	2.0.0.0				hiptensorElementwiseTrinaryExecute
cutensorEstimateWorkspaceSize	2.0.0.0				hiptensorEstimateWorkspaceSize
cutensorGetCudartVersion	1.0.1.0				hiptensorGetHiprtVersion
cutensorGetErrorString	1.0.1.0				hiptensorGetErrorString
cutensorGetVersion	1.0.1.0				
cutensorHandleReadPlanCacheFromFile	2.0.0.0				hiptensorHandleReadPlanCacheFromFil
cutensorHandleResizePlanCache	2.0.0.0				hiptensorHandleResizePlanCache
cutensorHandleWritePlanCacheToFile	2.0.0.0				hiptensorHandleWritePlanCacheToFile
cutensorInitTensorDescriptor	1.0.1.0			2.0.0.0	hiptensorInitTensorDescriptor
cutensorLoggerForceDisable	1.3.2.0				hiptensorLoggerForceDisable
cutensorLoggerOpenFile	1.3.2.0				hiptensorLoggerOpenFile
cutensorLoggerSetCallback	1.3.2.0				hiptensorLoggerSetCallback
cutensorLoggerSetFile	1.3.2.0				hiptensorLoggerSetFile
cutensorLoggerSetLevel	1.3.2.0				hiptensorLoggerSetLevel
cutensorLoggerSetMask	1.3.2.0				hiptensorLoggerSetMask
cutensorMgContraction	1.4.0.0				
cutensorMgContractionFindSetAttribute	1.5.0.0				
cutensorMgContractionGetWorkspace	1.4.0.0				
cutensorMgCopy	1.4.0.0				
cutensorMgCopyGetWorkspace	1.4.0.0				
cutensorMgCreate	1.4.0.0				
cutensorMgCreateContractionDescriptor	1.4.0.0				
cutensorMgCreateContractionFind	1.4.0.0				
cutensorMgCreateContractionPlan	1.4.0.0				
cutensorMgCreateCopyDescriptor	1.4.0.0				
cutensorMgCreateCopyPlan	1.4.0.0				
cutensorMgCreateTensorDescriptor	1.4.0.0				
cutensorMgDestroy	1.4.0.0				
cutensorMgDestroyContractionDescriptor	1.4.0.0				
cutensorMgDestroyContractionFind	1.4.0.0				

Table 7.34 – continued from previous page

CUDA	A	D	C	R	HIP
cutensorMgDestroyContractionPlan	1.4.0.0				
cutensorMgDestroyCopyDescriptor	1.4.0.0				
cutensorMgDestroyCopyPlan	1.4.0.0				
cutensorMgDestroyTensorDescriptor	1.4.0.0				
cutensorOperationDescriptorGetAttribute	2.0.0.0				hiptensorOperationDescriptorGetAttr
cutensorOperationDescriptorSetAttribute	2.0.0.0				hiptensorOperationDescriptorSetAttr
cutensorPermutation	1.0.1.0			2.0.0.0	hiptensorPermutation
cutensorPermute	2.0.0.0				hiptensorPermute
cutensorPlanGetAttribute	2.0.0.0				hiptensorPlanGetAttribute
cutensorPlanPreferenceSetAttribute	2.0.0.0				hiptensorPlanPreferenceSetAttribute
cutensorReadKernelCacheFromFile	2.0.0.0				hiptensorReadKernelCacheFromFile
cutensorReduce	2.0.0.0				hiptensorReduce
cutensorReduction	1.0.1.0			2.0.0.0	hiptensorReduction
cutensorWriteKernelCacheToFile	2.0.0.0				hiptensorWriteKernelCacheToFile

7.12 CUB API supported by HIP

Note: In the tables that follow the columns marked A, D, C, R, and E mean the following: **A** - Added; **D** - Deprecated; **C** - Changed; **R** - Removed; **E** - Experimental

7.12.1 1. CUB Data types

CUDA	A	D	C	R	HIP	A	D	C	R	E
CUB_ALIGN										
CUB_CAT										
CUB_CAT_										
CUB_COMPILER_DEPRECATION										
CUB_COMPILER_DEPRECATION_SOFT										
CUB_COMP_DEPR_IMPL										
CUB_COMP_DEPR_IMPL0										
CUB_COMP_DEPR_IMPL1										
CUB_CPLUSPLUS										
CUB_CPP_DIALECT										
CUB_DEFINE_DETECT_NESTED_TYPE										
CUB_DEFINE_VECTOR_TYPE										
CUB_DEPRECATED										
CUB_DEVICE_COMPILER										
CUB_DEVICE_COMPILER_CLANG										
CUB_DEVICE_COMPILER_GCC										
CUB_DEVICE_COMPILER_MSVC										
CUB_DEVICE_COMPILER_NVCC										
CUB_DEVICE_COMPILER_UNKNOWN										
CUB_HOST_COMPILER										
CUB_HOST_COMPILER_CLANG										
CUB_HOST_COMPILER_GCC										
CUB_HOST_COMPILER_MSVC										
CUB_HOST_COMPILER_UNKNOWN										
CUB_IGNORE_DEPRECATED_API										

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Table 7.35 – continued from previous page

CUDA	A	D	C	R	HIP	A	D	C	R	E
CUB_IGNORE_DEPRECATED_COMPILER										
CUB_IGNORE_DEPRECATED_CPP_11										
CUB_IGNORE_DEPRECATED_CPP_DIALECT										
CUB_IGNORE_DEPRECATED_DIALECT										
CUB_INCLUDE_DEVICE_CODE										
CUB_INCLUDE_HOST_CODE										
CUB_IS_DEVICE_CODE										
CUB_IS_HOST_CODE										
CUB_LOG_SMEM_BANKS										
CUB_LOG_WARP_THREADS										
CUB_MAX					CUB_MAX	4.5.0				
CUB_MAX_DEVICES										
CUB_MIN					CUB_MIN	4.5.0				
CUB_MSVC_VERSION										
CUB_MSVC_VERSION_FULL										
CUB_NAMESPACE_BEGIN					BEGIN_HIPCUB_NAMESPACE	2.5.0				
CUB_NAMESPACE_END					END_HIPCUB_NAMESPACE	2.5.0				
CUB_PREFER_CONFLICT_OVER_PADDING										
CUB_PREVENT_MACRO_SUBSTITUTION										
CUB_PTX_ARCH					HIPCUB_ARCH	2.5.0				
CUB_PTX_LOG_SMEM_BANKS										
CUB_PTX_LOG_WARP_THREADS										
CUB_PTX_PREFER_CONFLICT_OVER_PADDING										
CUB_PTX_SMEM_BANKS										
CUB_PTX_SUBSCRIPTION_FACTOR										
CUB_PTX_WARP_THREADS					HIPCUB_WARP_THREADS	2.5.0				
CUB_QUOTIENT_CEILING										
CUB_QUOTIENT_FLOOR										
CUB_ROUND_DOWN_NEAREST										
CUB_ROUND_UP_NEAREST										
CUB_RUNTIME_ENABLED										
CUB_RUNTIME_FUNCTION					HIPCUB_RUNTIME_FUNCTION	2.5.0				
CUB_SMEM_BANKS										
CUB_STATIC_ASSERT										
CUB_STDERR					HIPCUB_STDERR	2.5.0				
CUB_SUBSCRIPTION_FACTOR										
CUB_USE_COOPERATIVE_GROUPS										
CubDebug					HipcubDebug	2.5.0				
CubDebugExit										
CubVector										
_CUB_ASM_PTR_										
_CUB_ASM_PTR_SIZE_										
_CubLog					_HipcubLog	2.5.0				
__CUB_ALIGN_BYTES					__HIPCUB_ALIGN_BYTES	4.5.0				
__CUB_LP64__										

CHAPTER

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