# CM5-V Series
## (KCM51VUG/KCM5XVUG/KCM5DVUG/KCM5FVUG)
## Enterprise NVMe™ MIXED USE SSD

The CM5-V series is a mixed-use SSD that is optimized to support a broad range of enterprise applications and associated workloads that include High Performance Computing, Online Transaction Processing, IoT and Edge Computing, Media Streaming, etc. This NVMe™ series of CM5 SSDs deliver excellent performance up to 770K random read IOPS and 165K random write IOPS, with maximum power consumption of 16 W.

Featuring KIOXIA Corporation's 64-layer BiCS FLASH™ 3D TLC memory, the CM5-V Series of enterprise NVMe™ SSDs delivers 3 DWPD (Drive Writes Per Day) of endurance and supports storage capacities up to 6.4 TB, making them ideally suited for read and write mixed-use enterprise applications.



Product image may differ from the actual product.

## Key Features

- PCIe® Gen3 x4 interface single/dual port support
- NVMe™ Rev. 1.3a compliant
- Capacities from 800 GB to 6.4 TB
- Up to 770K random read IOPS in single port (1x4) mode
- Low power consumption, with 16 W maximum
- 2.5 inch small form factor, 15 mm Z-Height
- 3 DWPD with 100% random write workload
- Power loss protection and end-to-end data protection, including T10 DIF
- Sanitize Instant Erase (SIE) option[1, 4]
- Self-encrypting drive (SED) option[2, 4]
- Self-encrypting drive (SED), FIPS 140-2 option[2, 3, 4]
- 5-year limited warranty

## Key Applications

- High performance computing (HPC) (financial trading, healthcare, and oil/gas exploration)
- Online transaction processing (OLTP) (transactional and relational databases)
- High-frequency trading (HFT)
- IoT, IIoT and Edge computing (automotive, autonomous vehicles, transportation, smart cities and smart factories)
- Media streaming (media and entertainment, and video surveillance)

## Specifications

| Model Number | KCM51VUG6T40 | KCM51VUG3T20 | KCM51VUG1T60 | KCM51VUG800G |
|---|---|---|---|---|
| SIE Model Number | KCM5XVUG6T40 | KCM5XVUG3T20 | KCM5XVUG1T60 | KCM5XVUG800G |
| SED Model Number | KCM5DVUG6T40 | KCM5DVUG3T20 | KCM5DVUG1T60 | KCM5DVUG800G |
| SED FIPS Model Number | KCM5FVUG6T40 | KCM5FVUG3T20 | KCM5FVUG1T60 | KCM5FVUG800G |
| **Physical** | | | | |
| Capacity | 6,400 GB | 3,200 GB | 1,600 GB | 800 GB |
| Interface | PCIe® Gen3 x4 ; NVMe™ Rev. 1.3a | | | |
| Interface Speed | 32 GT/s (Gen3 x4 ) | | | |
| Memory Type | BiCS FLASH™ TLC | | | |

# Specifications (Continued)

| Capacity | 6,400 GB | 3,200 GB | 1,600 GB | 800 GB |
|---|---|---|---|---|
| **Performance in single port (1x4) mode(Up to)** | | | | |
| Sustained 128 KiB Sequential Read | 3,350 MB/s | | 3,250 MB/s | |
| Sustained 128 KiB Sequential Write | 3,040 MB/s | | 2,460 MB/s | 1,250 MB/s |
| Sustained 4 KiB Random Read | 770K IOPS | 750K IOPS | 650K IOPS | 370K  IOPS |
| Sustained 4 KiB Random Write | 165K IOPS | 160K IOPS | 145K IOPS | 95K IOPS |
| **Power Requirements** | | | | |
| Supply Voltage | 12 V ± 10 %   \|   3.3 Vaux ± 15 % | | | |
| Power Consumption (Ready) | 6.0 W Typ. | | | |
| **Reliability** | | | | |
| MTTF | 2,500,000 hours | | | |
| DWPD | 3 | | | |
| Warranty | 5 years | | | |
| **Mechanical** | | | | |
| Height | 15.0 mm + 0, -0.5 mm | | | |
| Width | 69.85 ± 0.25 mm | | | |
| Length | 100.45 mm Max | | | |
| Weight | 130 g Max. | | | |
| **Environmental** | | | | |
| Temperature (Operating) | 0 ℃ to 60 ℃ | | | |
| Humidity  (Operating) | 5 % to 95 % R.H. | | | |
| Vibration (Operating) | 21.27 m/s$^2$ { 2.17 Grms } ( 5 to 800 Hz ) | | | |
| Shock (Operating) | 9,800 m/s$^2$ { 1,000 G } ( 0.5 ms duration ) | | | |

Definition of capacity: KIOXIA Corporation defines a megabyte (MB) as 1,000,000 bytes, a gigabyte (GB) as 1,000,000,000 bytes and a terabyte (TB) as 1,000,000,000,000 bytes. A computer operating system, however, reports storage capacity using powers of 2 for the definition of 1GB = 2^30 = 1,073,741,824 bytes and therefore shows less storage capacity. Available storage capacity (including examples of various media files) will vary based on file size, formatting, settings, software and operating system, such as Microsoft Operating System and/or pre-installed software applications, or media content. Actual formatted capacity may vary.

GT/s: Giga Transfers per second.

A kibibyte (KiB) means 2^10,  or 1,024 bytes.

MTTF (Mean Time to Failure) is not a guarantee or estimate of product life; it is a statistical value related to mean failure rates for a large number of products which may not accurately reflect actual operation. Actual operating life of the product may be different from the MTTF.

DWPD: Drive Write Per Day. One drive write per day means the drive can be written and re-written to full capacity once a day every day for five years, over the stated product warranty period. Actual results may vary due to system configuration, usage and other factors.

Read and write performances may vary depending on the host device, read and write conditions, and file size.

IOPS: Input Output Per Second (or the number of I/O operations per second).

[1] The Sanitize Instant Erase (SIE) option supports Crypto Erase, which is a standardized feature defined by NVM Express Inc.

[2] SED (Self-Encrypting Drive) supports TCG Opal SSC. Unsupported features are included in these series.  For more details, please make inquiries through "Contact us" in each region's website, https://business.kioxia.com/

[3] FIPS drives are designed to comply with FIPS 140-2 Level 2, which defines security requirements for cryptographic module by NIST (National Institute of Standards and Technology). For the latest validation status of each model, please contact us above.

[4] Optional security feature compliant drives are not available in all countries due to export and local regulations.

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