

KIOXIA CM6-V Series (2.5-inch)

(KCM61VUL/KCM6XVUL/KCM6DVUL/KCM6FVUL)

Enterprise NVMe™ Mixed Use SSD

KIOXIA CM6-V series is a mixed use SSD that is optimized to support a broad range of enterprise applications and associated workloads, including high performance computing, online transaction processing, IoT and edge computing, media streaming. Built on PCIe® 4.0 and NVMe™1.4 technology, the CM6 Series SSDs deliver excellent performance up to 1.4M IOPS (random read) and 350K IOPS (random write), with maximum power consumption of 25 W.

Featuring KIOXIA Corporation's 96-layer BiCS FLASH™ 3D TLC memory, the CM6-V Series of enterprise NVMe™ SSDs delivers 3 DWPD (Drive Writes Per Day) of endurance and supports storage capacities up to 12.8 TB, making them ideally suited for read and write mixed use enterprise applications.



Product image may represent a design model.

Key Features

- PCIe® 4.0, NVMe™ 1.4 specification compliant
- Form factor: 2.5-inch, 15 mm Z-height
- Proprietary KIOXIA architecture: controller, firmware and BiCS FLASH™ 96-layer 3D TLC memory
- SFF-TA-1001 conformant (U.3)
- Dual-port design for high availability applications
- 6th generation, two-die failure recovery and double parity protection
- High performance with lower power consumption
- Power loss protection (PLP) and end-to-end data protection
- Suited for 24x7 enterprise workloads
- Security options: SIE, SED, FIPS 140-2^[1, 2, 3, 4, 5]
- Six power mode settings

Key Applications

- Data warehousing
- Online transaction processing (OLTP) (transactional and relational databases)
- Business intelligence
- Artificial intelligence and machine learning

Specifications

Base Model Number	KCM61VUL12T8	KCM61VUL6T40	KCM61VUL3T20	KCM61VUL1T60	KCM61VUL800G
SIE Model Number	KCM6XVUL12T8	KCM6XVUL6T40	KCM6XVUL3T20	KCM6XVUL1T60	KCM6XVUL800G
SED Model Number	KCM6DVUL12T8	KCM6DVUL6T40	KCM6DVUL3T20	KCM6DVUL1T60	KCM6DVUL800G
FIPS SED Model Number	KCM6FVUL12T8	KCM6FVUL6T40	KCM6FVUL3T20	KCM6FVUL1T60	KCM6FVUL800G
Capacity	12,800 GB	6,400 GB	3,200 GB	1,600 GB	800 GB
Basic Specifications					
Form Factor	2.5-inch, 15 mm thickness				
Interface	PCIe® 4.0, NVMe™ 1.4				
Maximum Interface Speed	64 GT/s (PCIe® Gen4 single x4, dual x2)				
Flash Memory Type	BiCS FLASH™ TLC				

Specifications (Continued)

Capacity	12,800 GB	6,400 GB	3,200 GB	1,600 GB	800 GB
Performance (Up to)					
Sustained 128 KiB Sequential Read	6,900 MB/s				
Sustained 128 KiB Sequential Write	4,000 MB/s		4,200 MB/s	2,800 MB/s	1,400 MB/s
Sustained 4 KiB Random Read	1,400K IOPS			1,300K IOPS	880K IOPS
Sustained 4 KiB Random Write	325K IOPS		350K IOPS	215K IOPS	100K IOPS
Power Requirements					
Supply Voltage	12 V ± 10 %, 3.3 V ± 15 %				
Power Consumption (Active)	21 W typ.	20 W typ.	19 W typ.	16 W typ.	14 W typ.
Power Consumption (Ready)	5 W typ.				
Reliability					
MTTF	2,500,000 hours				
Warranty	5 years				
DWPD	3				
Dimensions					
Thickness	15.0 mm +0 / -0.5 mm				
Width	69.85 mm ± 0.25 mm				
Length	100.45 mm Max				
Weight	130 g Max				
Environmental					
Temperature (Operating)	0 °C to 70 °C				
Temperature (Non-operating)	-40 °C to 85 °C				
Humidity (Operating)	5 % to 95 % R.H.				
Vibration (Operating)	21.27 m/s ² { 2.17 Grms } (5 to 800 Hz)				
Shock (Operating)	9.8 km/s ² { 1,000 G } (0.5 ms)				

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 1 GB = 2³⁰ = 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, and/or pre-installed software applications, or media content. Actual formatted capacity may vary.

GT/s: Giga Transfers per second.

A kibibyte (KiB) means 2¹⁰, 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 Writes Per Day. One full drive write per day means the drive can be written and re-written to full capacity once a day every day for the specified lifetime. Actual results may vary due to system configuration, usage and other factors.

Read and write speed may vary depending on various factors such as host devices, software (drivers, OS etc.), and read/write conditions.

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

[1] Sanitize Instant Erase (SIE), Self-Encrypting Drive (SED) and FIPS (Federal Information Processing Standards) SED security optional models are available.

[2] SIE optional model supports Crypto Erase, which is a standardized feature defined by the technical committees (T10) of INCITS (the InterNational Committee for Information Technology Standards).

[3] SED optional model supports TCG Opal and Ruby SSCs. It has a few unsupported features of TCG Opal SSC. For more details, please make inquiries through "Contact us" in each region's website, <https://www.kioxia.com/>.

[4] FIPS SED optional model utilizes a security module designed to comply with FIPS 140-2 and FIPS 140-3, which define security requirements for cryptographic module by NIST (National Institute of Standards and Technology). For the latest validation status, please make inquiries through "Contact us" in each region's website, <https://www.kioxia.com/>.

[5] Security optional models are not available in all countries due to export and local regulations.

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