

## KIOXIA CM6-R Series (2.5-inch)

(KCM61RUL/KCM6XRUL/KCM6DRUL/KCM6FRUL)

### Enterprise NVMe™ Read Intensive SSD

KIOXIA CM6-R series is a read intensive SSD that is optimized to support a broad range of enterprise applications and associated workloads, including business intelligence, online transaction processing, and software defined storage and virtualization. Built on PCIe® 4.0 and NVMe™ 1.4 technology, the CM6 Series SSDs deliver excellent performance up to 1.4M IOPS (random read), with maximum power consumption of 25 W.

Featuring KIOXIA Corporation's 96-layer BiCS FLASH™ 3D TLC memory, the CM6-R Series of enterprise NVMe™ SSDs deliver 1 DWPD (Drive Writes Per Day) of endurance and support storage capacities up to 30.72 TB, making them ideally suited for read intensive 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
- 6<sup>th</sup> 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<sup>[1, 2, 3, 4, 5]</sup>
- Six power mode settings

### Key Applications

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

### Specifications

Base Model Number	KCM61RUL30T7	KCM61RUL15T3	KCM61RUL7T68	KCM61RUL3T84	KCM61RUL1T92	KCM61RUL960G
SIE Model Number	KCM6XRUL30T7	KCM6XRUL15T3	KCM6XRUL7T68	KCM6XRUL3T84	KCM6XRUL1T92	KCM6XRUL960G
SED Model Number	KCM6DRUL30T7	KCM6DRUL15T3	KCM6DRUL7T68	KCM6DRUL3T84	KCM6DRUL1T92	KCM6DRUL960G
FIPS SED Model Number	KCM6FRUL30T7	KCM6FRUL15T3	KCM6FRUL7T68	KCM6FRUL3T84	KCM6FRUL1T92	KCM6FRUL960G
Capacity	30,720 GB	15,360 GB	7,680 GB	3,840 GB	1,920 GB	960 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	30,720 GB	15,360 GB	7,680 GB	3,840 GB	1,920 GB	960 GB
<b>Performance (Up to)</b>						
Sustained 128 KiB Sequential Read	6,850 MB/s	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	900K IOPS	1,400K IOPS			1,300K IOPS	880K IOPS
Sustained 4 KiB Random Write	70K IOPS	170K IOPS			100K IOPS	50K IOPS
<b>Power Requirements</b>						
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.					
<b>Reliability</b>						
MTTF	2,500,000 hours					
Warranty	5 years					
DWPD	1					
<b>Dimensions</b>						
Thickness	15.0 mm +0 / -0.5 mm					
Width	69.85 mm ± 0.25 mm					
Length	100.45 mm Max					
Weight	150 g Max	130 g Max				
<b>Environmental</b>						
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 <sup>2</sup> { 2.17 Grms } ( 5 to 800 Hz )					
Shock (Operating)	9.8 km/s <sup>2</sup> { 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 = 2<sup>30</sup> = 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 2<sup>10</sup>, 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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