CM5-R Series
(KCM51RUG/KCM5XRUG/KCM5DRUG/KCM5FRUG)
Enterprise NVMe™ Read Intensive SSD

The CM5-R series is a read-intensive SSD that is optimized to support a broad range of enterprise applications and associated workloads that include Business Intelligence, Online Transaction Processing, and Software Defined Storage and Virtualization. This NVMe™ series of CM5 SSDs deliver excellent performance up to 770K random read IOPS, with maximum power consumption of 18 W.

Featuring KIOXIA Corporation's 64-layer BiCS FLASH™ 3D TLC memory, the CM5-R Series of enterprise NVMe™ SSDs deliver 1 DWPD (Drive Writes Per Day) of endurance and supports storage capacities up to 15.36 TB, making them ideally suited for read-intensive enterprise applications.

Product image may differ from the actual product.

Key Features

- PCIe® Gen3 x4 interface single/dual port support (for high availability applications and redundancy)
- NVMe™ Rev. 1.3a compliant
- Capacities from 960 GB to 15.36 TB
- Up to 770K random read IOPS in single port (1x4) mode
- Low power consumption, with 18 W maximum
- 2.5 inch small form factor, 15 mm Z-Height
- 1 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

- Software Defined Storage and Virtualization
- Data warehousing
- Online transaction processing (OLTP) (transactional and relational databases)
- Business intelligence (BI) (data analytics, artificial intelligence and machine learning)

Specifications

Model Number	KCM51RUG15T3	KCM51RUG7T68	KCM51RUG3T84	KCM51RUG1T92	KCM51RUG960G
SIE Model Number	KCM5XRUG15T3	KCM5XRUG7T68	KCM5XRUG3T84	KCM5XRUG1T92	KCM5XRUG960G
SED Model Number	KCM5DRUG15T3	KCM5DRUG7T68	KCM5DRUG3T84	KCM5DRUG1T92	KCM5DRUG960G
SED FIPS Model Number	KCM5FRUG15T3	KCM5FRUG7T68	KCM5FRUG3T84	KCM5FRUG1T92	KCM5FRUG960G
Physical					
Capacity	15,360 GB	7,680 GB	3,840 GB	1,920 GB	960 GB
Interface	PCIe® Gen3 x4 ; NVMe™ Rev. 1.3a				
Interface Speed	32 GT/s (Gen3 x4)				
Memory Type	BiCS FLASH™ TLC				

Specifications (Continued)

Capacity	15,360 GB	7,680 GB	3,840 GB	1,920 GB	960 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	590K IOPS	770K IOPS	750K IOPS	650K IOPS	370K IOPS
Sustained 4 KiB Random Write	35K IOPS	80K IOPS	70K IOPS	65K IOPS	50K 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	1				
Warranty	5 years				
Mechanical					
Height	15.0 mm + 0, -0.5 mm				
Width	69.85 ± 0.25 mm				
Length	100.45 mm Max				
Wight	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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