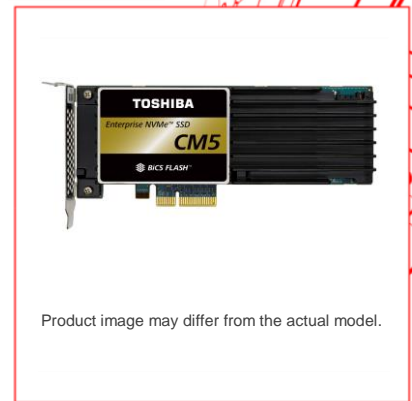


CM5-R SERIES (KCM51R4C/KCM5XR4C/KCM5DR4C) ENTERPRISE NVMe™ READ INTENSIVE SSD

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 18W.

Featuring Toshiba Memory 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 15.36TB, making them ideally suited for read-intensive enterprise applications.

SSD



> KEY FEATURES

- PCIe® Gen3 x4 lane interface single port support
- NVMe™ Rev. 1.3a compliant
- Capacities ranging from 960GB to 15.36TB
- Up to 770K random read IOPS
- Low power consumption with 18W maximum
- Add-in card form factor
- 1 DWPD with 100% Random Write Workload
- Power loss protection and end-to-end data protection, including T10 DIF
- Sanitize Instant Erase (SIE) option *Note 1,3
- Self-encrypting drive (SED) option *Note 2,3
- 5-year limited warranty

> 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)

> MAIN SPECIFICATIONS

Model Number	KCM51R4C15T3	KCM51R4C7T68	KCM51R4C3T84	KCM51R4C1T92	KCM51R4C960G	
SIE Model Number	KCM5XR4C15T3	KCM5XR4C7T68	KCM5XR4C3T84	KCM5XR4C1T92	KCM5XR4C960G	
SED Model Number	KCM5DR4C15T3	KCM5DR4C7T68	KCM5DR4C3T84	KCM5DR4C1T92	KCM5DR4C960G	
Interface	PCIe® Rev. 3.1a Gen3 x 4 lane; NVMe™ Rev. 1.3a					
Formatted Capacity	15,360 GB	7,680 GB	3,840 GB	1,920 GB	960 GB	
Performance (Up to)	Interface Speed	32 GT/s (Gen3 x 4 lane)				
	Memory Type	BiCS FLASH™ TLC				
	Sustained 64KiB Sequential Read	3,350 MB/s			3,250 MB/s	
	Sustained 64KiB Sequential Write	3,040 MB/s			2,460 MB/s	1,250 MB/s
	Sustained 64KiB Random Read	590,000 IOPS	770,000 IOPS	750,000 IOPS	650,000 IOPS	370,000 IOPS
Sustained 64KiB Random Write	35,000 IOPS	80,000 IOPS	70,000 IOPS	65,000 IOPS	50,000 IOPS	
Supply Voltage	Allowable Voltage	12 V ± 10 % 3.3 Vaux ± 15 %				
Power Consumption	6.0 W Typ.					

> RELIABILITY

Model Number	KCM51R4Cxxxx KCM5XR4Cxxxx KCM5DR4Cxxxx
MTTF	2,500,000 hours
DWPD	1
Warranty	5 years

> MECHANICAL SPECIFICATIONS

Model Number	KCM51R4Cxxxx KCM5XR4Cxxxx KCM5DR4Cxxxx
Height	68.77 ± 0.13 mm
Width	18.73 mm Max.
Length	167.52 ± 0.13 mm
Weight	220 g Max.

> ENVIRONMENTAL LIMITS

Item	KCM51R4Cxxxx KCM5XR4Cxxxx KCM5DR4Cxxxx
Temperature	Operating 0 °C to 60 °C
Humidity	Operating 5 % to 95 % R.H.
Vibration	Operating 21.27 m/s ² { 2.17 Grms } (5 to 800 Hz)
Shock	Operating 3,920 m/s ² { 400 G } (2 ms duration)

Product image may represent a design model.

Definition of capacity: Toshiba Memory 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 = 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, 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 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 Write 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 five years, the stated product warranty period. Actual results may vary due to system configuration, usage and other factors.

Read and write speed 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)

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

*Note 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.toshiba-memory.com/>

*Note 3: Optional security feature compliant drives are not available in all countries due to export and local regulations.

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**NVMe™ is a trademark of NVM Express, Inc.

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