

### CM5-V SERIES (KCM51V4C/KCM5XV4C/KCM5DV4C) 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 16W.



Featuring Toshiba Memory 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 6.4TB, making them ideally suited for read and write mixed-use enterprise applications.

#### > KEY FEATURES

- PCIe® Gen3 x4 lane Interface single port support (for high availability applications and redundancy)
- NVMe™ Rev. 1.3a compliant
- Capacities from 800GB to 6.4TB
- Up to 770K random read IOPS
- Low power consumption, with 16W maximum
- Add-in card form factor
- 3 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

- High performance computing (HPC) (financial trading, healthcare, and oil and 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)

#### > MAIN SPECIFICATIONS

Model Number	KCM51V4C6T40	KCM51V4C3T20	KCM51V4C1T60	KCM51V4C800G	
SIE Model Number	KCM5XV4C6T40	KCM5XV4C3T20	KCM5XV4C1T60	KCM5XV4C800G	
SED Model Number	KCM5DV4C6T40	KCM5DV4C3T20	KCM5DV4C1T60	KCM5DV4C800G	
Interface	PCIe® Rev. 3.1a Gen3 x 4 lane; NVMe™ Rev. 1.3a				
Formatted Capacity	6,400 GB	3,200 GB	1,600 GB	800 GB	
Performance (Up to)	Interface Speed	32 GT/s (Gen3 x 4 lane)			
	Memory Type	BiCS FLASH™ TLC			
	Sustained 128KiB Sequential Read	3,350 MB/s		3,250 MB/s	
	Sustained 128KiB Sequential Write	3,040 MB/s		2,460 MB/s	1,250 MB/s
	Sustained 4KiB Random Read	770,000 IOPS	750,000 IOPS	650,000 IOPS	370,000 IOPS
	Sustained 4KiB Random Write	165,000 IOPS	160,000 IOPS	145,000 IOPS	95,000 IOPS
Supply Voltage	Allowable Voltage	12 V ± 10 % 3.3 Vaux ± 15 %			
Power Consumption	6.0 W Typ.				

## > RELIABILITY

Model Number	KCM51V4Cxxxx KCM5XV4Cxxxx KCM5DV4Cxxxx
MTTF	2,500,000 hours
DWPD	3
Warranty	5 years

## > MECHANICAL SPECIFICATIONS

Model Number	KCM51V4Cxxxx KCM5XV4Cxxxx KCM5DV4Cxxxx
Height	68.77 ± 0.13 mm
Width	18.73 mm Max.
Length	167.52 ± 0.13 mm
Weight	220 g Max.

## > ENVIRONMENTAL LIMITS

Item	KCM51V4Cxxxx KCM5XV4Cxxxx KCM5DV4Cxxxx
Temperature	Operating 0 °C to 60 °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 3,920 m/s <sup>2</sup> { 400 G } ( 2 ms duration )

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 = 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, 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<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 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 NVMe 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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