KIOXIA CM7-R Series (E3.S)

(KCM71RJE/KCM7XRJE/KCM7DRJE/KCM7FRJE)

Enterprise NVMe™ Read-intensive SSD

KIOXIA CM7-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® 5.0 and NVMe™ 2.0 technology, the CM7 Series SSDs deliver excellent performance up to 2,700K IOPS (random read) and 310K IOPS (random write).

Featuring KIOXIA 112-layer BiCS FLASH™ 3D TLC flash memory, the CM7-R Series of enterprise NVMe™ SSDs delivers 1 DWPD (Drive Writes Per Day) of endurance and support storage capacities up to 15.36 TB, making them ideally suited for read-intensive enterprise applications.

Product image may represent a design model.

Key Features

- PCIe® 5.0, NVMe™ 2.0 specification compliant
- Open Compute Project Datacenter NVMe™ SSD specification v2.0 support (not all requirements)
- Form factor: E3.S, 7.5 mm thickness
- Proprietary KIOXIA architecture: controller, firmware and 112-layer BiCS FLASH™ 3D TLC
- Dual-port design for high availability applications
- 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 SED [1, 2, 3, 4, 5]

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	KCM71RJE15T3	KCM71RJE7T68	KCM71RJE3T84	KCM71RJE1T92
SIE Model Number	KCM7XRJE15T3	KCM7XRJE7T68	KCM7XRJE3T84	KCM7XRJE1T92
SED Model Number	KCM7DRJE15T3	KCM7DRJE7T68	KCM7DRJE3T84	KCM7DRJE1T92
FIPS SED Model Number	KCM7FRJE15T3	KCM7FRJE7T68	KCM7FRJE3T84	KCM7FRJE1T92
Capacity	15,360 GB	7,680 GB	3,840 GB	1,920 GB
Basic Specifications				
Form Factor	E3.S			
Interface	PCIe® 5.0, NVMe™ 2.0			
Maximum Interface Speed	128 GT/s (PCIe® Gen5 single x4, dual x2)			
Flash Memory Type	BiCS FLASH™ TLC			

Specifications (Continued)

Capacity	15,360 GB	7,680 GB	3,840 GB	1,920 GB
Performance in single port (1x4) mode (Up to)				
Sustained 128 KiB Sequential Read	13,000 MB/s	14,000 MB/s		
Sustained 128 KiB Sequential Write	5,300 MB/s	6,750 MB/s		3,500 MB/s
Sustained 4 KiB Random Read	2,000K IOPS	2,450K IOPS	2,700K IOPS	2,000K IOPS
Sustained 4 KiB Random Write	260K IOPS	300K IOPS	310K IOPS	155K IOPS
Power Requirements				
Supply Voltage	12 V ± 10 %, 3.3 V ± 15%			
Power Consumption (Active)	25 W typ.		24 W typ.	21 W typ.
Power Consumption (Ready)	5 W typ.			
Reliability				
MTTF	2,500,000 hours			
Warranty	5 years			
DWPD	1			
Dimensions				
Thickness	7.5 mm +0.2 / -0.5 mm			
Width	76 mm ± 0.25 mm			
Length	112.75 mm ± 0.4 mm			
Weight	110 g Max			
Environmental				
Temperature (Operating)	0 ℃ to 73 ℃	0 ℃ to 76 ℃		
Temperature (Non-operating)	-40 ℃ to 85 ℃			
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 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, 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 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).

Temperature (operating): Specified by the composite temperature reported by SMART.

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

[2] SIE optional models support 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 models support TCG Opal and Ruby SSCs. It has a few unsupported TCG Opal features. For more details, please make inquiries through "Contact us" in each region's website, https://www.kioxia.com/.

[4] FIPS SED optional models utilize a security module designed to comply with 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] Optional security feature compliant models are not available in all countries due to export and local regulations.

All information provided in this catalog is subject to change without any prior notice. For the latest and detail specification, please send an inquiry through "Contact us" in each region's website, https://www.kioxia.com/.

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