CD7-R E3.S Series

(KCD71RJE/KCD7XRJE)
Data Center NVMe™ Read-Intensive SSD

The CD7-R E3.S form factor Series is a read-intensive data center NVMe™ SSD that is optimized to support a broad range of scale-out and cloud applications, including big data/IoT, online transaction processing, and virtualization. Designed with a PCIe® 5.0 (32 GT/s x4) interface technology, CD7-R E3.S form factor Series SSDs deliver consistent performance up to 1,050K IOPS (random read) and 180K IOPS (random write), with active power consumption of 13-19 W.

Featuring KIOXIA 96-layer BiCS FLASH™ 3D TLC memory, CD7-R E3.S form factor SSDs deliver 1 DWPD (Drive Writes Per Day) of endurance and storage capacities up to 7.68 TB in an E3.S form factor, making them well-suited for hyperscale data center applications.

Product image may differ from the actual product.

Key Features

- Designed with PCIe® 5.0 technology, NVMe™ 1.4 specification compliant
- Form factor: E3.S, 7.5mm Z-height
- Proprietary KIOXIA architecture: controller, firmware and 96-layer BiCS FLASH™ 3D TLC
- Single-port design, optimized for data center class workloads
- Consistent performance and reliability for demanding 24×7 environments
- Designed for high-density storage deployments
- Power loss protection (PLP) and end-to-end data correction
- Security Option: SIE[1][2][3]

Key Applications

- Hyperscale
- IoT and big data analytics
- Online transaction processing (OLTP) (transactional and relational databases)
- Virtualized environments
- Streaming media and content delivery networks(CDN)

Specifications

Base Model Number	KCD71RJE7T68	KCD71RJE3T84	KCD71RJE1T92
SIE Model Number	KCD7XRJE7T68	KCD7XRJE3T84	KCD7XRJE1T92
Capacity	7,680 GB	3,840 GB	1,920 GB
Basic Specifications			
Interface	Designed to PCIe® 5.0, NVMe™ 1.4		
Maximum Interface Speed	128 GT/s (Gen5 x4)		
Flash Memory Type	BiCS FLASH™ TLC		

Specifications (Continued)

Capacity	7,680 GB	3,840 GB	1,920 GB
Performance (Up to)			
Sustained 128 KiB Sequential Read	6,250 MB/s	6,450 MB/s	
Sustained 128 KiB Sequential Write	5,600 MB/s	3,200 MB/s	3,600 MB/s
Sustained 4 KiB Random Read	1,030K IOPS	1,050K IOPS	
Sustained 4 KiB Random Write	175K IOPS	178K IOPS	180K IOPS
Power Requirements			
Supply Voltage	3.3 V ± 15 %, 12 V ± 10 %		
Power Consumption (Active)	19 W typ.	13 W typ.	
Power Consumption (Ready)	5 W typ.		
Reliability			
MTTF	2,500,000 hours		
Warranty	5 years		
DWPD	1 DWPD		
Dimensions			
Height	7.5 mm + 0.2, - 0.5 mm		
Width	76 mm ± 0.25 mm		
Length	112.75 mm ± 0.4 mm		
Weight	120 g Max		
Environmental			
Temperature (Operating)	0 ℃ to 70 ℃		
Temperature (Non-operating)	-40 ℃ to 80 ℃		
Humidity (Operating)	5 % R.H. to 95 % R.H.		
Vibration (Operating)	21.27 m/s^2 { 2.17 G } (Peak, 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, 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 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.

IIOPS: Input Output Per Second (or the number of I/O operations per second).

[1] The Sanitize Instant Erase (SIE) optional model is available.

[2] SIE option supports Crypto Erase, which is a standardized feature defined by NVM Express Inc.

[3] Optional security feature compliant drives are not available in all countries due to export and local regulations.

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