KIOXIA

KIOXIA CD7-R Series (E3.S)

(KCD71RJE/KCD7XRJE)

Data Center NVMe™ Read Intensive SSD

KIOXIA 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, the 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, the 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 represent a design model.

Key Features

- Designed with PCIe® 5.0 technology, NVMe™ 1.4 specification compliant
- Form factor: E3.S, 7.5mm thickness
- 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			
Form Factor	E3.S		
Interface	PCIe® 5.0, NVMe™ 1.4		
Maximum Interface Speed	128 GT/s (PCIe® 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	12 V ± 10 %, 3.3 V ± 15 %		
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		
Dimensions			
Thickness	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 °C to 70 °C		
Temperature (Non-operating)	-40 °C to 80 °C		
Humidity (Operating)	5 % to 95 % R.H.		
Vibration (Operating)	21.27 m/s² { 2.17 Grms } (5 to 800 Hz)		
Shock (Operating)	9.8 km/s² { 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 1 GB = 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).

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

[2] SIE optional model supports Crypto Erase, which is a standardized feature defined by the technical committees (T10) of INCITS (the InterNational Committee for Information Technology Standards).

[3] Security optional model is not available in all countries due to export and local regulations.

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