KIOXIA

End of Sales

KIOXIA CD7-R Series (2.5-inch)

(KCD71RUG/KCD7XRUG/KCD7DRUG)

Data Center NVMe™ Read Intensive SSD

KIOXIA CD7-R 2.5-inch 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. Built with a PCIe® 4.0 (16 GT/s x4) interface, the CD7-R 2.5-inch form factor Series SSDs deliver consistent performance up to 1,100K IOPS (random read) and 180K IOPS (random write), with active power consumption of 11-19 W.

Featuring KIOXIA 96-layer BiCS FLASH™ 3D TLC memory, the CD7-R 2.5-inch form factor SSDs deliver 1 DWPD (Drive Writes Per Day) of endurance and storage capacities up to 15.36 TB in a 2.5-inch form factor, making them well-suited for hyperscale data center applications.

Product image may represent a design model.

Key Features

- PCIe® 4.0, NVMe™ 1.4 specification compliant
- Form factor: 2.5-inch, 15mm 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 24x7 environments
- Designed for high-density storage deployments
- Power loss protection (PLP) and end-to-end data correction
- Security options: 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

Specifications

Base Model Number	KCD71RUG15T3	KCD71RUG7T68	KCD71RUG3T84	KCD71RUG1T92	KCD71RUG960G
SIE Model Number	KCD7XRUG15T3	KCD7XRUG7T68	KCD7XRUG3T84	KCD7XRUG1T92	KCD7XRUG960G
Capacity	15,360 GB	7,680 GB	3,840 GB	1,920 GB	960 GB
Basic Specifications					
Form Factor	2.5-inch, 15mm thickness				
Interface	PCIe® 4.0, NVMe™ 1.4				
Maximum Interface Speed	64 GT/s (PCIe® Gen4 x4)				
Flash Memory Type	BiCS FLASH™ TLC				

Specifications (Continued)

Capacity	15,360 GB	7,680 GB	3,840 GB	1,920 GB	960 GB
Performance (Up to)					
Sustained 128 KiB Sequential Read	6,450 MB/s		6,650 MB/s		6,250 MB/s
Sustained 128 KiB Sequential Write	5,600 MB/s		3,200 MB/s	3,600 MB/s	1,700 MB/s
Sustained 4 KiB Random Read	1,100K IOPS				850K IOPS
Sustained 4 KiB Random Write	180K IOPS				53K IOPS
Power Requirements					
Supply Voltage	12 V ± 10 %, 3.3 V ± 15 %				
Power Consumption (Active)	19 W typ.	18 W typ.	13 W typ.		11 W typ.
Power Consumption (Ready)	5 W typ.				
Reliability					
MTTF	2,500,000 hours				
Warranty	5 years				
DWPD	1				
Dimensions					
Thickness	15 mm +0 / -0.5 mm				
Width	69.85 mm ± 0.25 mm				
Length	100.45 mm Max				
Weight	130 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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