KIOXIA

Preliminary

KIOXIA CD8P-R Series (E3.S)

(KCD81PJE/KCD8XPJE/KCD8DPJE)

Data Center NVMe™ Read Intensive SSD

KIOXIA CD8P-R 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® 5.0 (32 GT/s x4) interface, the CD8P-R Series SSDs deliver consistent performance up to 2,000K IOPS (random read) and 200K IOPS (random write), and realize 60 % to 80 % increase in sequential read performance when compared to previous generation PCIe® 4.0 SSDs (KIOXIA CD8-R Series 2.5-inch).

Featuring KIOXIA BiCS FLASH™ generation 5 TLC flash memory, CD8P-R E3.S form factor SSDs deliver 1 DWPD (Drive Writes Per Day) of endurance and storage capacities up to 15.36 TB, making them well-suited for hyperscale data center 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 BiCS FLASH™ generation 5 TLC flash memory
- 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, SED[1][2][3][4]

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	**KCD81PJE15T3**	**KCD81PJE7T68**	**KCD81PJE3T84**	**KCD81PJE1T92**
SIE Model Number	**KCD8XPJE15T3**	**KCD8XPJE7T68**	**KCD8XPJE3T84**	**KCD8XPJE1T92**
SED Model Number	**KCD8DPJE15T3**	**KCD8DPJE7T68**	**KCD8DPJE3T84**	**KCD8DPJE1T92**
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 x4)			
Flash Memory Type	BiCS FLASH™ TLC			

Specifications (Continued)

Capacity	15,360 GB	7,680 GB	3,840 GB	1,920 GB
Performance (Up to)				
Sustained 128 KiB Sequential Read	12,000 MB/s			
Sustained 128 KiB Sequential Write	5,300 MB/s	5,500 MB/s		3,500 MB/s
Sustained 4 KiB Random Read	2,000K IOPS		1,900K IOPS	1,600K IOPS
Sustained 4 KiB Random Write	200K IOPS			150K IOPS
Power Requirements				
Supply Voltage	12 V ± 10 %, 3.3 V ± 15 %			
Power Consumption (Active)	23 W typ.	21 W typ.	19 W typ.	18 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 °C to 73 °C	0 °C to 76 °C		
Temperature (Non-operating)	-40 °C to 85 °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).

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

[1] Sanitize Instant Erase (SIE) and Self-Encrypting Drive (SED) security optional models are 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] SED optional model supports TCG Opal and Ruby SSCs. It has a few unsupported features of TCG Opal SSC. For more details, please make inquiries through “Contact us” in each region’s website, https://www.kioxia.com/

[4] Security optional models are not available in all countries due to export and local regulations.

All information provided here is subject to change without prior notice.