KIOXIA

KIOXIA XD7P Series (E1.S)

(KXDZ1RJ9/KXDZDRJ9)

Data Center NVMe™ SSD

KIOXIA XD7P Series E1.S SSDs are designed to the Enterprise and Datacenter Standard Form Factor (EDSFF) E1.S specification to address the specific requirements of hyperscale applications, including the performance, power and thermal requirements of the Open Compute Project (OCP) Datacenter NVMe™ SSD Specification. In addition to 9.5 mm thickness E1.S, 15mm thickness E1.S with the heatsink is also supported.

Designed to optimize system density and efficiency, the XD7P Series SSDs represent the future of flash storage for servers and storage systems in cloud and hyperscale data centers, and support storage capacities up to 7.68 TB.

Product image may represent a design model.

Key Features

- Compliant with PCIe® 5.0 (Gen4 x4), NVMe™ 2.0 specifications
- Open Compute Project Datacenter NVMe™ SSD specification v2.0 support (not all requirements)
- E1.S form factor (9.5 mm / 15 mm thickness)
- KIOXIA proprietary architecture: controller, firmware and BiCS FLASH™ generation 5
- 1.92 TB / 3.84 TB / 7.68 TB capacity options
- Power loss protection (PLP) and end-to-end data protection
- Security option: SED (Self Encrypting Drive)

Key Applications

- Servers and storage systems for cloud and hyperscale data centers

Specifications

Base Model Number	KXDZ1RJ97T68	KXDZ1RJ93T84	KXDZ1RJ91T92	KXDZ1RJJ7T68	KXDZ1RJJ3T84	KXDZ1RJJ1T92
SED Model Number	KXDZDRJ97T68	KXDZDRJ93T84	KXDZDRJ91T92	KXDZDRJJ7T68	KXDZDRJJ3T84	KXDZDRJJ1T92
Capacity	7,680 GB	3,840 GB	1,920 GB	7,680 GB	3,840 GB	1,920 GB
Basic Specifications						
Form Factor	E1.S 15 mm			E1.S 9.5 mm		
Interface	PCIe® 5.0, NVMe™ 2.0					
Maximum Interface Speed	64 GT/s (PCIe® Gen4 x4)					
Flash Memory Type	BiCS FLASH™ TLC					

Specifications (Continued)

Capacity	7,680 GB	3,840 GB	1,920 GB	7,680 GB	3,840 GB	1,920 GB
Performance (Up to)						
Sustained 128 KiB Sequential Read	7,200 MB/s					
Sustained 128 KiB Sequential Write	4,800 MB/s		3,100 MB/s	4,800 MB/s		3,100 MB/s
Sustained 4 KiB Random Read	1,550K IOPS	1,650K IOPS	1,500K IOPS	1,550K IOPS	1,650K IOPS	1,500K IOPS
Sustained 4 KiB Random Write	200K IOPS	180K IOPS	95K IOPS	200K IOPS	180K IOPS	95K IOPS
Power Requirements						
Supply Voltage	12 V ± 10 %					
Power Consumption (Active)	20 W typ.		16 W typ.	20 W typ.		16 W typ.
Power Consumption (Ready)	5 W typ.					
Reliability						
MTTF	2,000,000 hours					
DWPD	1					
Dimensions						
Thickness	15 mm +0.35 / -0.60 mm			9.5 mm ± 0.35 mm		
Width	33.75 mm ± 0.25 mm					
Length	118.75 mm ± 0.55 mm					
Weight	90 g Max			75 g Max		
Environmental						
Temperature (Operating)	0 °C to 75 °C					
Temperature (Non-operating)	-40 °C to 85 °C					
Humidity (Operating)	5 % to 95 % R.H.					
Vibration (Operating)	12 m/s^2 { 1.24 Grms } (2 to 500 Hz)					
Shock (Operating)	6,864 m/s^2 { 700 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.

SED optional model supports TCG Opal SSC except for some features. For more details, please make inquiries through “Contact us” in each region’s website, https://www.kioxia.com/.

SED optional model is not available in all countries due to the local regulations.

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