KIOXIA

Data Center SSDs

Leveraging state-of-the-art BiCS FLASH™ 3D flash memory with in-house designed controllers and firmware, KIOXIA data center SSDs are designed for cloud-based applications running on scale-out cloud and traditional server deployments, as well as AI training and inference. These data center SSDs are optimized for a balance of performance, low latency and data protection, and provide power loss protection (PLP)[*1] to safeguard data in case of unexpected power loss.

2.5-inch E3.S

CD9P Series
PCIe® / NVMe™ SSD

2.5-inch E3.S

CD8P Series
PCIe® / NVMe™ SSD

2.5-inch

CD8 Series
PCIe® / NVMe™ SSD

9.5 mm thickness 15 mm thickness

E1.S

XD8 Series
PCIe® / NVMe™ SSD

BiCS FLASH™

Product image may differ from the actual product.

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KIOXIA CD9P Series

Based on BiCS FLASH™ generation 8, the CD9P Series of PCIe® 5.0 (Gen5 x4) / NVMe™ SSDs is in 2.5-inch (15 mm thickness) and E3.S (7.5 mm thickness) form factor with capacities up to 61.44 TB. These SSDs feature Power Loss Protection (PLP) and offer a range of security/encryption options*2.

Model Number	DWPD *3	Interface	Form Factor	User Capacity (GB) *4	Performance (up to)				Typical Power Consumption (W)	Operating Temperature (°C) *8	Dimensions T/ W / L (mm) *9
					Sequential (128 KiB) (MB/s) *5 *6		Random (4 KiB) (KIOPS) *5 *6 *7				
					Read	Write	Read	Write			
KCD9XPUG12T8	3	PCIe® Gen5 x4	2.5-inch (15 mm thickness)	12,800	14,800	7,000	2,600	750	23	0 to 75	15.0 / 69.85 / 100.45
KCD9XPUG6T40				6,400							
KCD9XPUG3T20				3,200	14,500			600			
KCD9XPUG1T60				1,600		3,600	2,000	310			
KCD9XPJE12T8	3	PCIe® Gen5 x4	E3.S (7.5 mm thickness)	12,800	14,800	7,000	2,600	750	23	0 to 75	7.5 / 76.0 / 112.75
KCD9XPJE6T40				6,400							
KCD9XPJE3T20				3,200	14,500			600			
KCD9XPJE1T60				1,600		3,600	2,000	310			
KCD9XPUG61T4	1	PCIe® Gen5 x4	2.5-inch (15 mm thickness)	61,440	13,500	7,000	1,200	100	23	0 to 75	15.0 / 69.85 / 100.45
KCD9XPUG30T7				30,720			2,600	300			
KCD9XPUG15T3				15,360	14,800			450			
KCD9XPUG7T68				7,680							
KCD9XPUG3T84				3,840	14,500			320			
KCD9XPUG1T92				1,920		3,600	2,000	160			
KCD9XPJE30T7	1	PCIe® Gen5 x4	E3.S (7.5 mm thickness)	30,720	13,500	7,000	2,600	270	23	0 to 75	7.5 / 76.0 / 112.75
KCD9XPJE15T3				15,360	14,800			450			
KCD9XPJE7T68				7,680							
KCD9XPJE3T84				3,840	14,500			320			
KCD9XPJE1T92				1,920		3,600	2,000	160			

KIOXIA CD8P Series

Based on BiCS FLASH™ generation 5, the CD8P Series of PCIe® 5.0 (Gen5 x4) / NVMe™ SSDs is in 2.5-inch (15 mm thickness) and E3.S (7.5 mm thickness) form factor with capacities up to 30.72 TB. These SSDs feature Power Loss Protection (PLP) and offer a range of security/encryption options*2.

Model Number	DWPD *3	Interface	Form Factor	User Capacity (GB) *4	Performance (up to)				Typical Power Consumption (W)	Operating Temperature (°C) *8	Dimensions T/ W / L (mm) *9
					Sequential (128 KiB) (MB/s) *5 *6		Random (4 KiB) (KIOPS) *5 *6 *7				
					Read	Write	Read	Write			
KCD81PUG12T8	3	PCIe® Gen5 x4	2.5-inch (15 mm thickness)	12,800	12,000	5,500	2,000	400	23	0 to 73	15.0 / 69.85 / 100.45
KCD81PUG6T40				6,400					21		
KCD81PUG3T20				3,200			1,900		19	0 to 76	
KCD81PUG1T60				1,600		3,500	1,600	300	18		
KCD81PJE12T8	3	PCIe® Gen5 x4	E3.S (7.5 mm thickness)	12,800	12,000	5,300	2,000	400	23	0 to 73	7.5 / 76.0 / 112.75
KCD81PJE6T40				6,400		5,500			21	0 to 76	
KCD81PJE3T20				3,200			1,900		19		
KCD81PJE1T60				1,600		3,500	1,600	300	18		
KCD81PUG30T7	1	PCIe® Gen5 x4	2.5-inch (15 mm thickness)	30,720	10,000	4,900	1,600	150	24	0 to 72	15.0 / 69.85 / 100.45
KCD81PUG15T3				15,360	12,000	5,500	2,000	200	23	0 to 73	
KCD81PUG7T68				7,680					21		
KCD81PUG3T84				3,840			1,900		19	0 to 76	
KCD81PUG1T92				1,920		3,500	1,600	150	18		
KCD81PJE15T3	1	PCIe® Gen5 x4	E3.S (7.5 mm thickness)	15,360	12,000	5,300	2,000	200	23	0 to 73	7.5 / 76.0 / 112.75
KCD81PJE7T68				7,680		5,500			21	0 to 76	
KCD81PJE3T84				3,840			1,900		19		
KCD81PJE1T92				1,920		3,500	1,600	150	18		

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KIOXIA CD8 Series

Based on BiCS FLASH™ generation 5, the CD8 Series of PCIe® 4.0 (Gen4 x4) / NVMe™ SSDs is available in a 2.5-inch (15 mm thickness) form factor with capacities up to 15.36 TB and security options*2.

Model Number	DWPD *3	Interface	Form Factor	User Capacity (GB) *4	Performance (up to)				Typical Power Consumption (W)	Operating Temperature (°C) *8	Dimensions T/ W / L (mm) *9
					Sequential (128 KiB) (MB/s) *5 *6		Random (4 KiB) (KIOPS) *5 *6 *7				
					Read	Write	Read	Write			
KCD81VUG12T8	3	PCIe® Gen4 x4	2.5-inch (15 mm thickness)	12,800	6,600	6,000	1,050	380	20	0 to 74	15.0 / 69.85 / 100.45
KCD81VUG6T40				6,400	7,100		1,150		19	0 to 75	
KCD81VUG3T20				3,200	7,200	3,800	1,250	340	14		
KCD81VUG1T60				1,600		3,500		310	13		
KCD81VUG800G				800		1,800	1,000	160	11		
KCD81RUG15T3	1	PCIe® Gen4 x4	2.5-inch (15 mm thickness)	15,360	6,600	6,000	1,050	195	20	0 to 74	15.0 / 69.85 / 100.45
KCD81RUG7T68				7,680	7,100		1,150	200	19	0 to 75	
KCD81RUG3T84				3,840	7,200	3,800	1,250	195	14		
KCD81RUG1T92				1,920		3,500		150	13		
KCD81RUG960G				960		1,800	1,000	80	11		

KIOXIA XD8 Series

Based on BiCS FLASH™ generation 5, the XD8 Series of PCIe® 5.0 (Gen5 x4) / NVMe™ SSDs is in E1.S (9.5 mm and 15 mm thickness) form factor with capacities up to 7.68 TB. These SSDs feature Power Loss Protection (PLP) and offer a range of security/encryption options*2.

Model Number	DWPD *3	Interface	Form Factor	User Capacity (GB) *4	Performance (up to)				Typical Power Consumption (W)	Operating Temperature (°C) *8	Dimensions T / W / L (mm) *9
					Sequential (128 KiB) (MB/s) *5 *6		Random (4 KiB) (KIOPS) *5 *6 *7				
					Read	Write	Read	Write			
KXD81RJJ7T68	1	PCIe® Gen5 x4	E1.S (9.5 mm thickness)	7,680	12,500	5,800	2,300	250	21	0 to 75	9.5 / 33.75 / 118.75
KXD81RJJ3T84				3,840				200	20		
KXD81RJJ1T92				1,920		3,100	1,700	100	17		
KXD81RJ97T68	1	PCIe® Gen5 x4	E1.S (15 mm thickness)	7,680	12,500	5,800	2,300	250	21	0 to 75	15.0 / 33.75 / 118.75
KXD81RJ93T84				3,840				200	20		
KXD81RJ91T92				1,920		3,100	1,700	100	17		

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*1 : PLP (Power Loss Protection): In case of an unexpected shutdown, PLP allows data recorded in buffer memory to be written to flash memory, utilizing back up power from solid capacitors.
*2 : Optional security features
- Drive models with different security options have different model numbers.
- CD9P, CD8P and CD8 Series security options: Sanitize Instant Erase (SIE), Self-Encrypting Drive (SED) optional models are available.
- CD9P, CD8P and CD8 Series: SED optional model supports TCG Opal and Ruby SSCs. It has a few unsupported features of TCG Opal SSC.
- XD8 Series security option: Self-Encrypting Drive (SED) optional model is available.
- XD8 Series: SED optional model supports TCG Opal SSC except for some features.
- SIE optional model supports Cryptographic Erase, which is a standardized feature defined by the technical committees (SCSI) of INCITS (the InterNational Committee for Information Technology Standards).
- For more details and the latest validation status of each drive, please make inquiries through "Contact us" in each region's website, https://www.kioxia.com/.
- Optional security feature compliant drives are not available in all countries due to export control and local regulations.

*3 : 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 under the specified workload for the specified lifetime. Actual results may vary due to system configuration, usage and other factors.
*4 : Definition of capacity: 1 terabyte (1 TB) = 1,000 gigabytes (GB), 1 GB = 1,000,000,000 (10^9) bytes
*5 : A kibibyte (KiB) means 2^10, or 1,024 bytes.
*6 : Read and write speed may vary depending on various factors such as host devices, software (drivers, OS etc.), and read/write conditions.
*7 : IOPS: Input Output Per Second (or the number of I/O operations per second)
*8 : Composite temperature reported by SMART.
*9 : Dimensions represent the nominal values.

Customers must refer to and comply with the latest versions of all relevant KIOXIA information, including without limitation, this document, the specifications, the data sheets and application notes for Product and the precautions and conditions set forth in the KIOXIA Corporation Reliability Handbook and the instructions for the application with which the Product will be used with or for.

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