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. 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	2.5-inch	E3.S	9.5 mm thickness / 15 mm thickness / E1.S
CD8 Series PCIe® / NVMe™ SSD	**CD8P Series** PCIe® / NVMe™ SSD		**XD7P Series** PCIe® / NVMe™ SSD

Product image may differ from the actual product.

BiCS FLASH™

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]	Sequential (128 KiB) (MB/s) [5][6] Read	Sequential (128 KiB) (MB/s) [5][6] Write	Random (4 KiB) (KIOPS) [5][6][7] Read	Random (4 KiB) (KIOPS) [5][6][7] Write	Typical Power Consumption (W)	Operating Temperature (°C) [8]	Dimensions T/ W / L (mm) [9]
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	6,000	1,150	380	19	0 to 75	
KCD81VUG3T20				3,200	7,200	3,800	1,250	340	14	0 to 75	
KCD81VUG1T60				1,600	7,200	3,500	1,250	310	13	0 to 75	
KCD81VUG800G				800	7,200	1,800	1,000	160	11	0 to 75	
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	6,000	1,150	200	19	0 to 75	
KCD81RUG3T84				3,840	7,200	3,800	1,250	195	14	0 to 75	
KCD81RUG1T92				1,920	7,200	3,500	1,250	150	13	0 to 75	
KCD81RUG960G				960	7,200	1,800	1,000	80	11	0 to 75	

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	0 to 73	
KCD81PUG3T20				3,200			1,900		19	0 to 76	
KCD81PUG1T60				1,600		3,500	1,600	300	18	0 to 76	
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	0 to 76	
KCD81PJE1T60				1,600		3,500	1,600	300	18	0 to 76	
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	0 to 73	
KCD81PUG3T84				3,840			1,900		19	0 to 76	
KCD81PUG1T92				1,920		3,500	1,600	150	18	0 to 76	
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	0 to 76	
KCD81PJE1T92				1,920		3,500	1,600	150	18	0 to 76	

KIOXIA XD7P Series

Based on BiCS FLASH™ generation 5, the XD7P Series of PCIe® 5.0 (Gen4 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			
KXDZ1RJJ7T68	1	PCIe® Gen4 x4	E1.S (9.5 mm thickness)	7,680	7,200	4,800	1,550	200	20	0 to 75	9.5 / 33.75 / 118.75
KXDZ1RJJ3T84				3,840			1,650	180	20		
KXDZ1RJJ1T92				1,920		3,100	1,500	95	16		
KXDZ1RJ97T68	1	PCIe® Gen4 x4	E1.S (15 mm thickness)	7,680	7,200	4,800	1,550	200	20	0 to 75	15.0 / 33.75 / 118.75
KXDZ1RJ93T84				3,840			1,650	180	20		
KXDZ1RJ91T92				1,920		3,100	1,500	95	16		

*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.
  - CD8 and CD8P Series security options: Sanitize Instant Erase (SIE), Self-Encrypting Drive (SED) optional models are available.
  - CD8 and CD8P Series: SED optional model supports TCG Opal and Ruby SSCs. It has a few unsupported features of TCG Opal SSC.
  - XD7P Series security option: Self-Encrypting Drive (SED) optional model available.
  - XD7P Series: SED optional model supports TCG Opal SSC except for some features.
  - 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).
  - 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 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 speeds 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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