

XD6 SERIES Data Center NVMe™ SSD

SSD

Coming Soon

The XD6 series is in the position of successor of the XD5 series and is under development for shipment after 2020 calendar year. XD6 series supports PCIe® Gen4 /Gen3 x 4 interface, and a capacity line up is up to 3.84TB with M.2 22110 form factor that utilizes Toshiba Memory Corporation's BiCS FLASH™ 3D memory.

The XD6 Series offers 1 DWPD (Drive Writes Per Day) and plans to enhance performance up to 3,200MB/s sequential read, 500KIOPs random read, respectively. Self-encrypting drive (SED) models will also be offered.

KEY FEATURES

- Up to 3.84TB capacity with a PCIe® Gen4/Gen3 x4 lane Interface
- Up to 500K IOPS random read (4KiB) performance
- Low operating power
- Optimized for low latency
- M.2 22110 D5 form factor
- 1 DWPD under 100% random write workload
- Power-loss-protection and end-to-end data protection
- Self-Encrypting (SED) option *Note1, 2
- 5-year limited warranty

KEY APPLICATIONS

- Cloud-based applications
- NoSQL databases
- Big data analytics
- Streaming media

*Note 1: SED (Self-Encrypting Drive) plans to support TCG Opal SSC.

*Note 2: Security feature compliant drives are not available in all countries due to export and local regulations

MAIN SPECIFICATIONS

Model Number	KXD61RN13T84	KXD61RN11T92	KXD61RN1960G	
SED Model Number	KXD6DRN13T84	KXD6DRN11T92	KXD6DRN1960G	
Interface	PCIe® 3.1, NVMe 1.3c			
Formatted Capacity	3,840 GB	1,920 GB	960GB	
Performance (by Gen3 x 4) *Note3	Interface Speed	PCIe® Gen3 (8.0 GT/s) , x4 lane		
	Memory Type	BiCS FLASH™ TLC		
	Sustained 128KiB Sequential Read	3,200 MB/s		
	Sustained 128KiB Sequential Write	1,400 MB/s	1,100 MB/s	1,100 MB/s
	Sustained 4KiB Random Read	500 KIOPS	500 KIOPS	400 KIOPS
	Sustained 4KiB Random Write	50 KIOPS	40 KIOPS	40 KIOPS
Supply Voltage	Allowable Voltage	3.3V ± 5 %		
Power Consumption	8.25 W Typ.	7.0 W Typ	7.0 W Typ	

*Note 3: Above performance shows the target specification when XD6 used with PCIe Gen3 x 4lane.

Preliminary

> RELIABILITY

Model Number	KXD61RN1xxxx KXD6DRN1xxxx
MTTF	2,000,000 hours
DWPD	<1 / 5 years
Warranty	5 years

> MECHANICAL SPECIFICATIONS

Model Number	KXD61RN1xxxx KXD6DRN1xxxx
Height	Overall: 3.88 mm Max
Width	22.0 ± 0.15 mm
Length	110.0 ± 0.15 mm
Weight	14 g Max

> ENVIRONMENTAL LIMITS

Item		KXD61RN1xxxx KXD6DRN1xxxx
Temperature	Operating	0 °C to 70 °C
Humidity	Operating	5 % to 95 % R.H. (No condensation)
Vibration	Operating	21 m/s ² { 2.17 Grms } (7 to 800 Hz)
Shock	Operating	9,800 m/s ² { 1,000 G } (0.5 ms duration)

- > Definition of capacity: Toshiba Memory 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 = 2³⁰ = 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, such as Microsoft Operating System and/or pre-install software applications, or media content. Actual formatted capacity may vary.
- > GT/s : Giga Transfers per second
- > A kibibyte (KiB) means 2¹⁰.
- > 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 Write Per Day. One drive write per day means the drive can be written and re-written to full capacity once a day every day for five years, over the stated product warranty period. Actual results may vary due to system configuration, usage and other factors.
- > Read and write performances may vary depending on the host device, read and write conditions, and file size.
- > IOPS: Input Output Per Second (or the number of I/O operations per second)

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