

PM5-M Series

(KPM51MUG/KPM5XMUG/KPM5VMUG/KPM5WMUG)

Enterprise Write Intensive SSD

PM5-M 12.0 Gbit/s SAS SSD is optimized for write-intensive applications, including online transaction processing (OLTP) and e-commerce. The Series is designed to deliver high levels of performance, quality and reliability for mission critical, hyperscale and virtualized environments.

Featuring KIOXIA Corporation's 64-layer BiCS FLASH™ 3D memory, this 5th generation enterprise SAS SSD PM5-M Series offers 10 DWPD (Drive Writes Per Day) with capacities up to 3.2 TB.



Product image may differ from the actual product.

Key Features

- 12.0 Gbit/s SAS interface with single/dual port and MultiLink SAS™ support
- Capacities from 400 GB to 3.2 TB
- T10 Multi-Stream Write support
- Up to 385K random read IOPS (4 KiB) in dual port mode
- 2.5 inch form factor, 15 mm Z-Height
- 10 DWPD with 100 % Random Write Workload
- Power-Loss-Protection and End-to-End Data Protection including T10 DIF
- Pin-3 Power Disable Support
- Sanitize Instant Erase (SIE) option^[1, 4]
- Self-Encrypting (SED) option^[2, 4]
- Self-Encrypting (SED), FIPS 140-2 validated option^[2, 3, 4]
- 5-year limited warranty

Key Applications

- Mission critical enterprise workloads
- Hyperscale & virtualized environments
- Online transaction processing (OLTP)
- E-commerce

Specifications

Model Number	KPM51MUG3T20	KPM51MUG1T60	KPM51MUG800G	KPM51MUG400G
SIE Model Number	KPM5XMUG3T20	KPM5XMUG1T60	KPM5XMUG800G	KPM5XMUG400G
SED Model Number	KPM5VMUG3T20	KPM5VMUG1T60	KPM5VMUG800G	KPM5VMUG400G
SED FIPS Model Number	KPM5WMUG3T20	KPM5WMUG1T60	KPM5WMUG800G	KPM5WMUG400G
Physical				
Capacity	3,200 GB	1,600 GB	800 GB	400 GB
Interface	SAS-3.0			
Interface Speed	12.0 Gbit/s, 6.0 Gbit/s, 3.0 Gbit/s, 1.5 Gbit/s			
Memory Type	BiCS FLASH™ TLC			

Specifications (Continued)

Capacity	3,200 GB	1,600 GB	800 GB	400 GB
Performance (in dual port mode)				
Sustained 128 KiB Sequential Read	2,100 MB/s			
Sustained 128 KiB Sequential Write	2,100 MB/s			1,260 MB/s
Sustained 4 KiB Random Read	385K IOPS	370K IOPS	340K IOPS	270K IOPS
Sustained 4 KiB Random Write	230K IOPS			150K IOPS
Power Requirements				
Supply Voltage	5 V + 10% / -7% 12 V ± 10%			
Power Consumption	5.0 W Typ.			
Reliability				
MTTF	2,500,000 hours			
DWPD	10			
Warranty	5 years			
Mechanical				
Height	15.0 mm + 0, -0.5 mm			
Width	69.85 ± 0.25 mm			
Length	100.45 mm Max			
Weight	130 g Max.			
Environmental				
Temperature (Operating)	0 °C to 60 °C			
Humidity (Operating)	5 % to 95 % R.H. (No condensation)			
Vibration (Operating)	21.27 m/s ² { 2.17 Grms } (5 to 800 Hz)			
Shock (Operating)	9,800 m/s ² { 1,000 G } (0.5 ms duration)			

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 = 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-installed software applications, or media content. Actual formatted capacity may vary.

A kibibyte (KiB) means 2¹⁰, 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 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).

[1] The Sanitize Instant Erase (SIE) option supports Crypto Erase, which is a standardized feature defined by the technical committees (T10) of INCITS (the InterNational Committee for Information Technology Standards).

[2] SED (Self-Encrypting Drive) supports TCG Enterprise SSC.

[3] FIPS 140-2 validated (Level 2) defines security requirements for cryptographic module by NIST (National Institute of Standards and Technology).

[4] Optional security feature compliant drives are not available in all countries due to export and local regulations.

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