PM5-V Series   End of Sales

(KPM51VUG/KPM5XVUG/KPM5VVUG/KPM5WVUG)
Enterprise Mixed Use SSD

PM5-V 12.0 Gbit/s enterprise SAS SSD is optimized for mixed use applications, including SQL server, media streaming, data warehousing and web services. The Series is designed to deliver balanced levels of performance, reliability, capacity and endurance for mixed use and read intensive environments.

Featuring KIOXIA Corporation's 64-layer BiCS FLASH™ 3D memory, this 5th generation enterprise SAS SSD PM5-V offers 3 DWPD (Drive Writes Per Day) with capacities up to 6.4 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 6.4 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
- 3 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, 5]
- Self-Encrypting (SED) option[2, 4, 5]
- Self-Encrypting (SED), FIPS 140-2 validated option[2, 3, 4, 5]
- 5-year limited warranty

Key Applications

- Media streaming
- Data warehousing
- Web servers

Specifications

Model Number	KPM51VUG6T40	KPM51VUG3T20	KPM51VUG1T60	KPM51VUG800G	KPM51VUG400G
SIE Model Number	KPM5XVUG6T40	KPM5XVUG3T20	KPM5XVUG1T60	KPM5XVUG800G	KPM5XVUG400G
SED Model Number	KPM5VVUG6T40	KPM5VVUG3T20	KPM5VVUG1T60	KPM5VVUG800G	KPM5VVUG400G
SED FIPS Model Number	KPM5WVUG6T40	KPM5WVUG3T20	KPM5WVUG1T60	KPM5WVUG400G	KPM5WVUG400G
Physical					
Capacity	6,400 GB	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	6,400 GB	3,200 GB	1,600 GB	800 GB	400 GB
Performance (in dual port mode)					
Sustained 128 KiB Sequential Read	2,100 MB/s				1,470 MB/s
Sustained 128 KiB Sequential Write	2,100 MB/s			1,260 MB/s	680 MB/s
Sustained 4 KiB Random Read	385K IOPS	370K IOPS	340K IOPS	270K IOPS	180K IOPS
Sustained 4 KiB Random Write	120K IOPS			80K IOPS	70K 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	3				
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 ℃ to 60 ℃				
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 = 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, such as Microsoft Operating System and/or pre-installed software applications, or media content. Actual formatted capacity may vary.

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 Write 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 speeds 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).

[1] The Sanitize Instant Erase (SIE), Self-Encrypting Drive (SED), FIPS (Federal Information Processing Standards) optional models are available.

[2] 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).

[3] SED option supports TCG Enterprise SSC.

[4] FIPS drives are validated as FIPS 140-2 Level 2, which defines security requirements for cryptographic module by NIST (National Institute of Standards and Technology).

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

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