

PM5-R Series

(KPM51RUG/KPM5XRUG/KPM5VRUG/KPM5WRUG)

Enterprise Read Intensive SSD

PM5-R 12.0 Gbit/s enterprise SAS SSD is optimized for read intensive applications, including web services, data warehousing, media streaming and video on demand. The Series provides high levels of performance, reliability and endurance, and is designed to minimize total cost of ownership.

Featuring KIOXIA Corporation's 64-layer BiCS FLASH™ 3D memory, this 5th generation enterprise SAS SSD PM5-R Series offers 1 DWPD (Drive Write Per Day) with capacities up to 15.36 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 480 GB to 15.36 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
- 1 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

- Media streaming
- Data warehousing
- Web servers
- Video on demand (VOD)

Specifications

Model Number	KPM51RUG15T3	KPM51RUG7T68	KPM51RUG3T84	KPM51RUG1T92	KPM51RUG960G	KPM51RUG480G
SIE Model Number	KPM5XRUG15T3	KPM5XRUG7T68	KPM5XRUG3T84	KPM5XRUG1T92	KPM5XRUG960G	KPM5XRUG480G
SED Model Number	KPM5VRUG15T3	KPM5VRUG7T68	KPM5VRUG3T84	KPM5VRUG1T92	KPM5VRUG960G	KPM5VRUG480G
SED FIPS Model Number	KPM5WRUG15T3	KPM5WRUG7T68	KPM5WRUG3T84	KPM5WRUG1T92	KPM5WRUG960G	KPM5WRUG480G
Physical						
Capacity	15,360 GB	7,680 GB	3,840 GB	1,920 GB	960 GB	480 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	15,360 GB	7,680 GB	3,840 GB	1,920 GB	960 GB	480 GB
Performance (in dual port mode)						
Sustained 128 KiB Sequential Read	Up to 2,100 MB/s	2,100 MB/s				1,470 MB/s
Sustained 128 KiB Sequential Write	Up to 2,100 MB/s	2,100 MB/s			1,260 MB/s	680 MB/s
Sustained 4 KiB Random Read	300K IOPS	385K IOPS	370K IOPS	340K IOPS	270K IOPS	180K IOPS
Sustained 4 KiB Random Write	35K IOPS	55K IOPS			45K IOPS	
Power Requirements						
Supply Voltage	5 V + 10% / -7% 12 V ± 10%					
Power Consumption (Ready)	5.0 W Typ.					
Reliability						
MTTF	2,500,000 hours					
DWPD	1					
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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