PM5-V Series
(KPM5VUG/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.

Specifications

<table>
<thead>
<tr>
<th>Key Features</th>
<th>Key Applications</th>
</tr>
</thead>
</table>
• 12.0 Gbit/s SAS interface with single/dual port and MultiLink SAS™ support | • Media streaming |
• Capacities from 400 GB to 6.4 TB | • Data warehousing |
• T10 Multi-Stream Write support | • Web servers |
• 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] | |
• Self-Encrypting (SED) option[^2,4] | |
• Self-Encrypting (SED), FIPS 140-2 validated option[^2,3,4] | |
• 5-year limited warranty | |

<table>
<thead>
<tr>
<th>Model Number</th>
<th>SIE Model Number</th>
<th>SED Model Number</th>
<th>SED FIPS Model Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>KPM5VUG6T40</td>
<td>KPM5VUG6T40</td>
<td>KPM5VUG6T40</td>
<td>KPM5WVUG6T40</td>
</tr>
<tr>
<td>KPM5VUG3T20</td>
<td>KPM5VUG3T20</td>
<td>KPM5VUG3T20</td>
<td>KPM5WVUG3T20</td>
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<tr>
<td>KPM5VUG1T60</td>
<td>KPM5VUG1T60</td>
<td>KPM5VUG1T60</td>
<td>KPM5WVUG1T60</td>
</tr>
<tr>
<td>KPM5VUG800G</td>
<td>KPM5VUG800G</td>
<td>KPM5VUG800G</td>
<td>KPM5WVUG800G</td>
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<tr>
<td>KPM5VUG400G</td>
<td>KPM5VUG400G</td>
<td>KPM5VUG400G</td>
<td>KPM5WVUG400G</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Physical</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Capacity</td>
<td>6,400 GB</td>
</tr>
<tr>
<td>Interface</td>
<td>SAS-3.0</td>
</tr>
<tr>
<td>Interface Speed</td>
<td>12.0 Gbit/s, 6.0 Gbit/s, 3.0 Gbit/s, 1.5 Gbit/s</td>
</tr>
<tr>
<td>Memory Type</td>
<td>BiCS FLASH™ TLC</td>
</tr>
</tbody>
</table>

[^1]: N/A
[^2]: N/A
[^3]: N/A
[^4]: N/A
Specifications (Continued)

<table>
<thead>
<tr>
<th>Capacity</th>
<th>6,400 GB</th>
<th>3,200 GB</th>
<th>1,600 GB</th>
<th>800 GB</th>
<th>400 GB</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Performance</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(in dual port mode)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sustained 128 KiB Sequential Read</td>
<td>2,100 MB/s</td>
<td></td>
<td>1,470 MB/s</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sustained 128 KiB Sequential Write</td>
<td>2,100 MB/s</td>
<td></td>
<td>1,260 MB/s</td>
<td>680 MB/s</td>
<td></td>
</tr>
<tr>
<td>Sustained 4 KiB Random Read</td>
<td>385K IOPS</td>
<td>370K IOPS</td>
<td>340K IOPS</td>
<td>270K IOPS</td>
<td>180K IOPS</td>
</tr>
<tr>
<td>Sustained 4 KiB Random Write</td>
<td>120K IOPS</td>
<td></td>
<td>80K IOPS</td>
<td>70K IOPS</td>
<td></td>
</tr>
</tbody>
</table>

**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
- Wight: 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/s² (2.17 Grms) (5 to 800 Hz)
- Shock (Operating): 9,800 m/s² (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 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 SSI.

[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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