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Embedded Solutions



PCIe M.2 SSDs MTE712P & MTE712P-I

Transcend's M.2 SSD MTE712P is a Power Loss Protection (PLP) SSD. During unexpected power outages, the builtin tantalum capacitor provides power to the controller and DRAM cache, ensuring data integrity and storage reliability. The MTE712P also complies with the TCG (Trusted Computing Group) Opal 2.0 standards. Data is protected using the hardware-based AES 256-bit encryption and LBA (Logical Block Address) sector-specific permissions.

Transecnd's MTE712P features the 112-layer 3D NAND flash and a PCI Express (PCIe) Gen 4 x4 interface, achieving never-before-seen transfer speeds. Its built-in DRAM cache enables fast random read and write speeds, and improves drive endurance. In addition, the 30µ" gold finger PCB, Corner Bond technology, and anti-sulfur resistors guarantee its reliability in harsh conditions. Transcend's MTE712P is also 100% chamber tested in-house for extended operating temperatures ranging from -20°C to 75°C. Transcend also offers the MTE712P-I with wide temperature (-40°C~ 85°C) capabilities to ensure sustained functionality, enhanced endurance and optimal reliability in mission-critical applications.

Hardware Features

- Compliant with NVM Express specification 1.4
- PCIe Gen 4 x4 interface
- DDR4 DRAM Cache embedded
- Endurance: 3K P/E cycles (Program/Erase cycles) guaranteed
- Anti-sulfur technology implemented to prevent sulfurization in the environment

Firmware Features

- Supports S.M.A.R.T. function to conduct health monitoring, analysis, and reporting for storage devices
- Dynamic thermal throttling
- Full drive encryption with Advanced Encryption Standard (AES)
- · Compliant with TCG Opal specifications and IEEE 1667 standards

Ordering Information

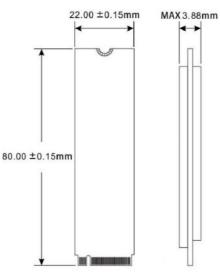
256GB	TS256GMTE712P TS256GMTE712P-I
512GB	TS512GMTE712P TS512GMTE712P-I
1TB	TS1TMTE712P TS1TMTE712P-I
2TB	TS2TMTE712P TS2TMTE712P-I



Specifications

AppearanceDimensions80 mm x 22 mm x 3.88 mm (3.15" x 0.87" x 0.15")Weight9 g (0.32 oz)M.2 Type2280-D2-M (Double-sided)Form FactorM.2 2280InterfaceBus InterfaceNVMe PCIe Gen4 x4StorageCapacity256 GB / 512 GB / 1 TB / 2 TBFlash Type112-layer 3D NAND flashFlash Type3.3V±5%Operating Voltage3.3V±5%Operating TemperatureWide Temp. -20°C (4°F) ~ 75°C (167°F) Wide Temp. -40°C (40°F) ~ 85°C (185°F)Storage Temperature55°C (-67°F) ~ 85°C (185°F)Mundity5% ~ 95%Shock1500 G, 0.5 ms, 3 axisVibration (Operating)20 G (peak-to-peak), 7 Hz ~ 2000 Hz (frequency)PowerPower Consumption (IDLE)Sequential Read/Write (CrystalDiskMark)Read: up to 3.800 MB/s Write: up to 3.100 MB/s			
Appearance M.2 Type 2280-D2-M (Double-sided) M.2 Type 2280-D2-M (Double-sided) Form Factor M.2 2280 Interface Bus Interface NVMe PCIe Gen4 x4 Storage Capacity 256 GB / 512 GB / 1 TB / 2 TB Flash Type 112-layer 3D NAND flash Operating Voltage 3.3V±5% Operating Temperature Extended Temp. -20°C (4°F) ~ 75°C (167°F) Wide Temp. -40°C (-40°F) ~ 85°C (185°F) Environment Storage Temperature -55°C (-67°F) ~ 85°C (185°F) Humidity 5% ~ 95% Shock 1500 G, 0.5 ms, 3 axis Vibration (Operating) 20 G (peak-to-peak), 7 Hz ~ 2000 Hz (frequency) Power Power Consumption (IDLE) 1.35 watt(s) Read: up to 3,800 MB/s Read: up to 3,800 MB/s	Appearance	Dimensions	80 mm x 22 mm x 3.88 mm (3.15" x 0.87" x 0.15")
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Operating Storage Temperature -40°C (-40°F) ~ 85°C (185°F) Environment Storage Temperature -55°C (-67°F) ~ 85°C (185°F) Humidity 5% ~ 95% Shock 1500 G, 0.5 ms, 3 axis Vibration (Operating) 20 G (peak-to-peak), 7 Hz ~ 2000 Hz (frequency) Power Power Consumption (Operation) 4 watt(s) Power Consumption (IDLE) 1.35 watt(s) Read: up to 3,800 MB/s			
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Shock 1500 G, 0.5 ms, 3 axis Vibration (Operating) 20 G (peak-to-peak), 7 Hz ~ 2000 Hz (frequency) Power Power Consumption (Operation) 4 watt(s) Power Consumption (IDLE) 1.35 watt(s) Sequential Road/Write (Constal DiskMark) Read: up to 3,800 MB/s		Storage Temperature	-55°C (-67°F) ~ 85°C (185°F)
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Power Power Consumption (Operation) 4 watt(s) Power Consumption (IDLE) 1.35 watt(s) Sequential Road/Write (Crustel Disk Mark) Read: up to 3,800 MB/s		Shock	1500 G, 0.5 ms, 3 axis
Power Power Consumption (IDLE) 1.35 watt(s) Sequential Read/Write (CrystalDiskMark) Read: up to 3,800 MB/s		Vibration (Operating)	20 G (peak-to-peak), 7 Hz ~ 2000 Hz (frequency)
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		Power Consumption (IDLE)	1.35 watt(s)
	Performance	Sequential Read/Write (CrystalDiskMark)	Read: up to 3,800 MB/s Write: up to 3,100 MB/s
4K Random Read/Write (IOmeter) Read: up to 350,000 IOPS Write: up to 340,000 IOPS		4K Random Read/Write (IOmeter)	
Mean Time Between Failures (MTBF) 3,000,000 hour(s)		Mean Time Between Failures (MTBF)	3,000,000 hour(s)
Terabytes Written (TBW) up to 4,320 TBW		Terabytes Written (TBW)	up to 4,320 TBW
Drive Writes Per Day (DWPD) 1.97 (3 yrs)		Drive Writes Per Day (DWPD)	1.97 (3 yrs)
Certificate CE / UKCA / FCC / BSMI	Warranty	Certificate	CE / UKCA / FCC / BSMI
Warranty Warranty Three-year Limited Warranty		Warranty	Three-year Limited Warranty

Mechanical Dimensions



Product specifications are subject to change without notice. Pictures shown may differ from actual products. Total accessible capacity varies depending on operating environment. Due to the complexity and variety of industrial applications, Transcend cannot guarantee 100% compatibility with all platforms and under all scenarios. For special applications and environments, it is strongly suggested that you contact Transcend beforehand for clarification.