

Embedded Solutions



PCIe M.2 SSDs

MTE452T & MTE452T-I

Transcend's MTE452T M.2 SSD features the PCI Express (PCIe) Gen 3 x2 interface and is compatible with NVM Express (NVMe) 1.3 specifications to achieve never-before-seen transfer speeds. The MTE452T features state-of-the-art 3D NAND technology, which allows 96 layers of 3D NAND flash chips to be vertically stacked. Compared to 3D NAND at 64 layers, this density breakthrough greatly improves storage efficiency. The MTE452T is built with DRAM cache for fast access, and is fully tested in-house to guarantee reliability in mission-critical applications, boasting an endurance rating of 3K Program/Erase cycles.

Transcend also offers the MTE452T-I with wide temperature (-40°C ~ 85°C) capabilities to ensure sustained functionality, enhanced endurance and optimal reliability in mission-critical applications.

Hardware Features

- Endurance: 3K P/E cycles (Program/Erase cycles) guaranteed
- Key components fortified by default with Corner Bond technology
- PCIe Gen 3 x2 interface
- Promised operational reliability in a wide temperature range (from -40°C to 85°C)
- DDR3 DRAM Cache embedded

Firmware Features

- SLC caching technology
- Supports NVM command
- Built-in LDPC ECC (Error Correction Code) functionality
- Supports S.M.A.R.T. function to conduct health monitoring, analysis, and reporting for storage devices
- Dynamic thermal throttling

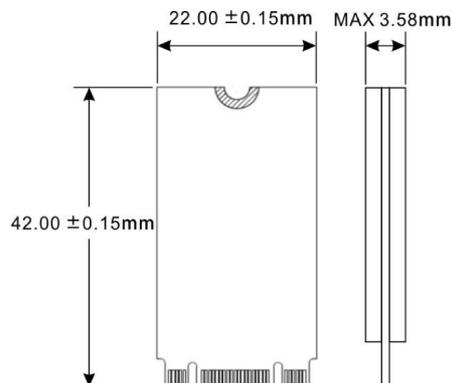
Ordering Information

| | |
|-------|----------------------------------|
| 128GB | TS128GMTE452T TS128GMTE452T-I |
| 256GB | TS256GMTE452T TS256GMTE452T-I |
| 512GB | TS512GMTE452T TS512GMTE452T-I |

Specifications

| | | |
|------------------------------|-----------------------------------------|-------------------------------------------------------|
| Appearance | Dimensions | 42 mm x 22 mm x 3.58 mm (1.65" x 0.87" x 0.14") |
| | Weight | 5 g (0.18 oz) |
| | M.2 Type | 2242-D2-B-M (Double-sided) |
| | Form Factor | M.2 2242 |
| Interface | Bus Interface | NVMe PCIe Gen3 x2 |
| Storage | Capacity | 128 GB / 256 GB / 512 GB |
| | Flash Type | 3D NAND flash |
| Operating Environment | Operating Voltage | 3.3V±5% |
| | Operating Temperature | Standard Temp. 0°C (32°F) ~ 70°C (158°F) |
| | | Wide Temp. -40°C (-40°F) ~ 85°C (185°F) |
| | 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) | 3.0 watt(s) |
| | Power Consumption (IDLE) | 0.6 watt(s) |
| Performance | Sequential Read/Write (CrystalDiskMark) | Read: up to 1,700 MB/s Write: up to 1,250 MB/s |
| | 4K Random Read/Write (IOMeter) | Read: up to 200,000 IOPS Write: up to 250,000 IOPS |
| | Mean Time Between Failures (MTBF) | 3,000,000 hour(s) |
| | Terabytes Written (TBW) | up to 1,080 TBW |
| | Drive Writes Per Day (DWPD) | 2 (3 yrs) |
| Warranty | Certificate | CE / FCC / BSMI |
| | 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.