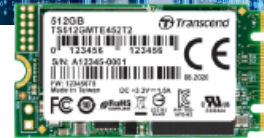**Embedded Solutions**

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℃ ~ 85℃) 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

Ordering Information

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

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

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)
	Form Factor	M.2
	M.2 Type	2242-D2-B-M (Double-sided)
Interface	Bus Interface	NVMe PCIe Gen3 x2
Storage	Flash Type	3D NAND flash
	Capacity	128 GB / 256 GB / 512 GB
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)	2.81 watt(s)
	Power Consumption (IDLE)	0.63 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
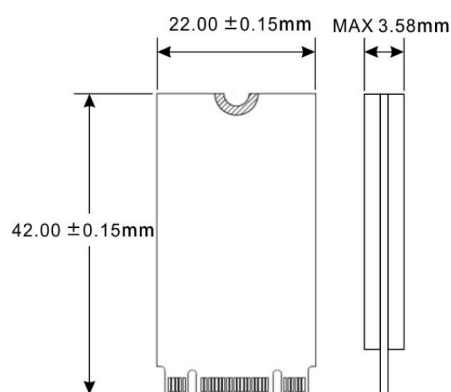
Product specifications are subject to change without notice. Pictures shown may differ from actual products. Total accessible capacity varies depending on operating environment. Due to the complexity and variety of industrial applications, Transcend cannot guarantee 100% compatibility with all platforms and under all scenarios. For special applications and environments, it is strongly suggested that you contact Transcend beforehand for clarification.