Embedded Solutions

mSATA SSDs

MSA452T & MSA452T-I

Supporting the Serial ATA interface and built around a powerful controller, Transcend's SATA III 6Gb/s MSA452T mSATA SSD delivers blazing-fast performance, long-term reliability, and high cost-effectiveness. Featuring DRAM cache for fast access and state-of-the-art 96-layer 3D NAND flash, the MSA452T is fully tested to guarantee reliability in mission-critical applications, boasting an endurance rating of 3K Program/Erase cycles. The compact mSATA form factor is just one-eighth the size of a standard 2.5" SSD, making it perfect for use in space-constricted portable devices such as Ultrabooks, tablet PCs, and slim servers.

Transcend also offers the MSA452T-I with wide temperature (-40℃ ~ 85℃) capabilities to ensure sustained functionality, enhanced endurance and optimal reliability in mission-critical applications.

Hardware Features

- Compliant with RoHS 2.0 standards
- Endurance: 3K P/E cycles (Program/Erase cycles) guaranteed
- Promised operational reliability in a wide temperature range (from -40°C to 85°C)
- DDR3 DRAM Cache embedded
- Compliant with JEDEC MO-300A

Firmware Features

- Advanced Garbage Collection
- Advanced Global Wear-Leveling and Block management for reliability
- Supports NVM command
- Built-in LDPC ECC (Error Correction Code) functionality
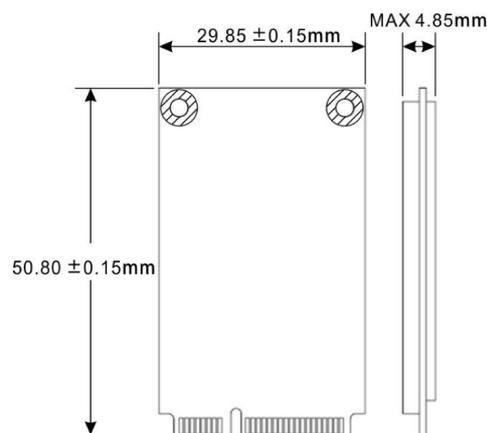- Enhanced S.M.A.R.T. function for durability

Ordering Information

Capacity	Part Number
64GB	TS64GMSA452T TS64GMSA452T-I
128GB	TS128GMSA452T TS128GMSA452T-I
256GB	TS256GMSA452T TS256GMSA452T-I
512GB	TS512GMSA452T TS512GMSA452T-I
1TB	TS1TMSA452T TS1TMSA452T-I

Specifications

Appearance	Dimensions	50.8 mm x 29.85 mm x 4.85 mm (2" x 1.18" x 0.19")
	Weight	8 g (0.28 oz)
	mSATA Type	MO-300
	Pin Count	52 pin
	Form Factor	mSATA
Interface	Bus Interface	SATA III 6Gb/s
Storage	Flash Type	3D NAND flash
	Capacity	64 GB / 128 GB / 256 GB / 512 GB / 1 TB
Operating Environment	Operating Voltage	3.3V±5%
	Operating Temperature	Standard 0°C (32°F) ~ 70°C (158°F) Wide Temp. -40°C (-40°F) ~ 85°C (185°F)
	Storage Temperature	-40°C (-40°F) ~ 85°C (185°F)
	Humidity	5% ~ 95%
	Shock	1500 G, 0.5 ms, 3 axis
	Vibration (Non-operating)	20 G (peak-to-peak), 7 Hz ~ 2000 Hz (frequency)
Power	Power Consumption (Operation)	2.4 watt(s)
	Power Consumption (Sleep)	0.4 watt(s)
Performance	Sequential Read/Write (CrystalDiskMark, max.)	Read: up to 560 MB/s Write: up to 520 MB/s
	4K Random Read/Write (IOmeter, max.)	Read: up to 95,000 IOPS Write: up to 85,000 IOPS
	Mean Time Between Failures (MTBF)	3,000,000 hour(s)
	Terabytes Written (Max.)	1,760 TBW
	Drive Writes Per Day (DWPD)	1.61 (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.