

mSATA SSDs

MSA480T & MSA480T-I

Transcend's MSA480T mSATA Solid State Drive combines BiCS8 218-layer 3D NAND flash with a high-efficiency DRAM-less architecture, delivering enhanced storage density, low power consumption, and low heat generation. Offering an endurance rating of 3K P/E cycles, it uses a standard SATA III 6Gb/s interface and compact mSATA form factor, making it ideal for space-constrained applications such as embedded industrial PCs, fanless systems, human-machine interfaces (HMIs), and self-service terminals.

Designed for long-term, continuous operation in demanding industrial environments, the MSA480T incorporates a 30µ" PCB gold finger, Corner Bond technology, and anti-sulfur resistors to improve vibration resistance and protect components. The standard model supports an extended operating temperature range of -20°C to 75°C, while the industrial wide-temperature MSA480T-I supports a wide operating temperature range of -40°C to 85°C. The MSA480T series is well suited for applications including smart manufacturing, outdoor terminals, and edge computing.

Hardware Features

- Compliant with RoHS 2.0 standards
- Compliant with JEDEC MO-300A
- 30µ" PCB gold finger
- Anti-sulfur technology implemented to prevent sulfurization in the environment
- Key components fortified by default with Corner Bond technology

Firmware Features

- Supports S.M.A.R.T. function to conduct health monitoring, analysis, and reporting for storage devices
- Built-in LDPC ECC (Error Correction Code) functionality
- NCQ command for better performance
- TRIM command for better performance
- Advanced Global Wear-Leveling and Block management for reliability

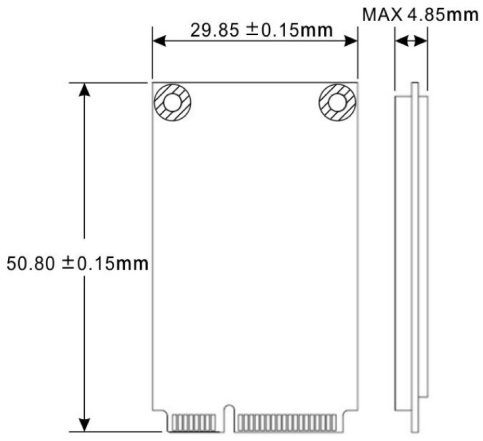
Ordering Information

128GB	TS128GMSA480T TS128GMSA480T-I
256GB	TS256GMSA480T TS256GMSA480T-I
512GB	TS512GMSA480T TS512GMSA480T-I
1TB	TS1TMSA480T TS1TMSA480T-I
2TB	TS2TMSA480T TS2TMSA480T-I

Specifications

Appearance	Dimensions	50.8 mm x 29.85 mm x 4.85 mm (2.0" x 1.18" x 0.19")
	Weight	8 g (0.28 oz)
	Form Factor	mSATA (MO-300A)
Interface	Bus Interface	SATA III 6Gb/s
Storage	Capacity	128 GB / 256 GB / 512 GB / 1 TB / 2 TB
	Flash Type	218-layer 3D NAND flash
Operating Environment	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)
	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 ~ 2,000 Hz (frequency)
Power	Power Consumption (Operation)	0.67 watt(s)
	Power Consumption (IDLE)	0.34 watt(s)
Performance	Sequential Read/Write (CrystalDiskMark)	Read: Up to 560 MB/s Write: Up to 520 MB/s
	4K Random Read/Write (IOmeter)	Read: Up to 70,000 IOPS Write: Up to 85,000 IOPS
	Mean Time Between Failures (MTBF)	3,000,000 hour(s)
	Terabytes Written (TBW)	Up to 5,400 TBW
	Drive Writes Per Day (DWPD)	2.46 (3 yrs)
Warranty	Certificate	CE / UKCA / 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.