**Embedded Solutions**

## mSATA SSDs
# SATA III 6Gb/s MSA452T2 & MSA452P mSATA SSD

**3K P/E cycles**

Featuring the Serial ATA interface and built around a powerful controller, Transcend's SATA III 6Gb/s MSA452T2 mSATA SSD delivers blazing-fast performance. The MSA452T2 features the latest 3D NAND technology for high storage efficiency, 30µ" PCB gold finger and Corner Bond technology for enhanced durability, built-in DRAM cache for fast access, an extended operating temperature range from -20°C to 75°C, and an endurance rating of 3K Program/Erase cycles for reliable operation. 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.

## Features

- DRAM Cache embedded
- 30µ" PCB gold finger
- Endurance: 3K P/E cycles (Program/Erase cycles) guaranteed
- Key components fortified by default with Corner Bond technology
- Dynamic Thermal Throttling
- Advanced Global Wear-Leveling and Block management for reliability
- Advanced Garbage Collection
- Security Command
- Built-in LDPC ECC (Error Correction Code) functionality
- Enhanced S.M.A.R.T. function for durability
- Compliant with RoHS 2.0 standards
- Power-saving DevSleep (Device Sleep) mode
- MSA452P is designed with Intelligent Power Shield (IPS) to ensure data integrity
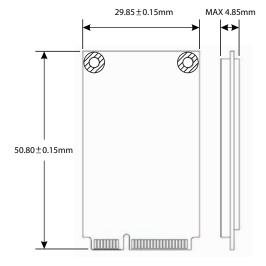
## Ordering Information

**Extended (-20°C to 75°C)**

| | |
|---|---|
| 64GB | TS64GMSA452T2 |
| 128GB | TS128GMSA452T2 |
| 256GB | TS256GMSA452T2 |
| 512GB | TS512GMSA452T2 |
| 1TB | TS1TMSA452T2 |

**Extended (-20°C to 75°C)**

| | |
|---|---|
| 128GB | TS128GMSA452P |

## 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 | 52 pin |
| | Form Factor | mSATA |
| **Interface** | Bus Interface | SATA III 6Gb/s |
| **Storage** | Flash Type | 3D TLC NAND flash |
| | Capacity | 64 GB/128 GB/256 GB/512 GB/1 TB |
| **Operating Environment** | Operating Voltage | 3.3V±5% |
| | Operating Temperature | Extended: -20°C (-4°F) ~ 75°C (167°F) |
| | Storage Temperature | -55°C (-67°F) ~ 85°C (185°F) |
| | Humidity | 5% ~ 95% |
| | Shock | 1500 G, 0.5 ms, 3 axis |
| | Vibration | 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) |
| | Sequential Read/Write (CrystalDiskMark) | Read: 560 MB/s; write: 520 MB/s |
| **Performance** | 4K Random Read/Write (IOmeter) | Read: 95,000 IOPS; write: 85,000 IOPS |
| | Mean Time Between Failures (MTBF) | 3,000,000 hour(s) |
| | Terabytes Written (TBW) | 1,760 TBW |
| | Drive Writes Per Day (DWPD) | 1.61 (3 yrs) |
| **Warranty** | Certificate | CE/FCC/BSMI |
| | Warranty | Three-year Limited Warranty |
| **Note** | • Speed may vary due to host hardware, software, usage, and storage capacity.<br>• The workload used to rate DWPD may be different from your actual workload, which may vary due to host hardware, software, usage, and storage capacity. | |

## Mechanical Dimensions

29.85 ± 0.15mm    MAX 4.85mm

50.80 ± 0.15mm

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.

Please feel free to contact us with any special requests you might have.
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