

## Embedded Solutions



mSATA SSDs

# SATA III 6Gb/s MSA510 & MSA510I

Supporting the next-generation Serial ATA interface and built around a powerful controller, Transcend's SATA III 6Gb/s MSA510 mSATA SSDs deliver blazing-fast performance and long-term reliability. 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 MSA510I with wide temperature (-40°C ~ 85°C) capabilities to ensure sustained functionality, enhanced endurance and optimal reliability in mission-critical applications.

## Firmware Features

- Transcend's exclusive SuperMLC technology
- Built-in ECC (Error Correction Code) functionality
- Advanced Global Wear-Leveling and Block management for reliability
- Advanced Garbage Collection
- Enhanced S.M.A.R.T. function for durability
- TRIM command for better performance
- NCQ command for better performance
- Security Command
- Power-saving DevSleep (Device Sleep) mode

## Hardware Features

- Compliant with RoHS standards
- DDR3 DRAM Cache embedded
- Promised operational reliability in a wide temperature range (from -40°C to 85°C)
- Supports Transcend Scope Pro software

## Ordering Information

Standard (0°C~ 70°C)

|       |              |
|-------|--------------|
| 8GB   | TS8GMSA510   |
| 16GB  | TS16GMSA510  |
| 32GB  | TS32GMSA510  |
| 64GB  | TS64GMSA510  |
| 128GB | TS128GMSA510 |

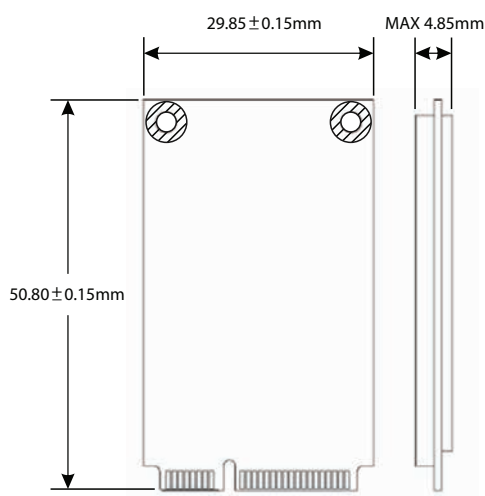
Wide Temp. (-40°C~ 85°C)

|      |              |
|------|--------------|
| 32GB | TS32GMSA510I |
|------|--------------|

## Specifications

|                       |   |   |
|-----------------------|---|---|
| Appearance            | Dimensions  | 50.8 mm x 29.85 mm x 4.85 mm (2" x 1.18" x 0.19") |
|                       | Weight  | 9 g (0.32 oz)                                     |
|                       | mSATA Type  | MO-300  |
|                       | Pin   | 52 pin  |
|                       | Form Factor   | mSATA   |
| Interface             | Bus Interface   | SATA III 6Gb/s                                    |
| Storage               | Flash Type  | SuperMLC  |
|                       | Capacity  | 8 GB/16 GB/32 GB/64 GB/128 GB                     |
| 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  | 0% ~ 95%  |
|                       | Shock   | 1500 G, 0.5 ms, 3 axis                            |
| Power                 | Vibration (Operating)   | 3 G (peak-to-peak), 5 Hz ~ 800 Hz (frequency)     |
|                       | Vibration (Non-operating)   | 5 G (peak-to-peak), 5 Hz ~ 800 Hz (frequency)     |
| Performance           | Power Consumption (Operation)   | 2.87 watt(s)                                      |
|                       | Power Consumption (Sleep)   | 0.33 watt(s)                                      |
|                       | Sequential Read/Write (ATTO, max.)  | Read: 570 MB/s; write: 480 MB/s                   |
|                       | Sequential Read/Write (CrystalDiskMark, max.)   | Read: 530 MB/s; write: 450 MB/s                   |
|                       | 4K Random Read/Write (IOmeter, max.)  | Read: 75,000 IOPS; write: 75,000 IOPS             |
|                       | Mean Time Between Failures (MTBF)   | 1,500,000 hour(s)                                 |
| Warranty              | Terabytes Written (Max.)  | 2,840 TBW   |
|                       | Drive Writes Per Day (DWPD)   | 15.2 (3 yrs)                                      |
|                       | Certificate   | CE/FCC/BSMI                                       |
| Note                  | Warranty  | Three-year Limited Warranty                       |
|                       | <ul style="list-style-type: none"> <li>• Speed may vary due to host hardware, software, usage, and storage capacity.</li> <li>• 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.</li> </ul> |   |

## 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.



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