



**Embedded Solutions**



mSATA SSDs

**MSA520I**

The MSA520I features the SATA III 6Gb/s interface and 112-layer 3D NAND flash, delivering density breakthrough that greatly improves storage efficiency. Its built-in DRAM cache allows faster random speeds while the 30µ" gold finger PCB, Corner Bond technology, and anti-sulfur resistor guarantee its reliability in harsh conditions. Transcend also adopts the SLC Mode technology to enable the drive to reach competitive speeds and endurance that are equal to the SLC flash. The MSA520I is fully tested in-house, operating stably in a wide operating temperature range (-40°C~85°C).

**Hardware Features**

- Compliant with JEDEC MO-300A
- High-quality 3D NAND flash and SLC mode for exceptional endurance and reliability
- Endurance: 100K P/E cycles (Program/Erase cycles) guaranteed
- Anti-sulfur technology implemented to prevent sulfurization in the environment
- 30µ" PCB gold finger

**Firmware Features**

- Supports S.M.A.R.T. function to conduct health monitoring, analysis, and reporting for storage devices
- Advanced Garbage Collection
- Advanced Global Wear-Leveling and Block management for reliability
- Built-in LDPC ECC (Error Correction Code) functionality
- Dynamic thermal throttling

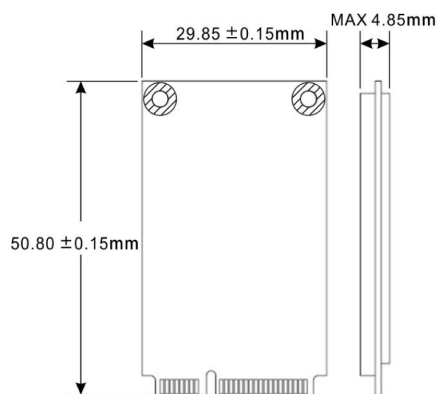
**Ordering Information**

40GB	TS40GMSA520I
80GB	TS80GMSA520I
160GB	TS160GMSA520I
320GB	TS320GMSA520I

## Specifications

<b>Appearance</b>	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)
	Pin Count	52 pin
	Form Factor	mSATA (MO-300A)
<b>Interface</b>	Bus Interface	SATA III 6Gb/s
<b>Storage</b>	Capacity	40 GB / 80 GB / 160 GB / 320 GB
	Flash Type	112-layer 3D NAND flash (SLC mode)
<b>Operating Environment</b>	Operating Voltage	3.3V±5%
	Operating Temperature	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)
<b>Power</b>	Power Consumption (Operation)	3.5 watt(s)
	Power Consumption (Sleep)	1.0 watt(s)
<b>Performance</b>	Sequential Read/Write (CrystalDiskMark)	Read: up to 560 MB/s Write: up to 500 MB/s
	4K Random Read/Write (IOMeter)	Read: up to 38,000 IOPS Write: up to 75,000 IOPS
	Mean Time Between Failures (MTBF)	3,000,000 hour(s)
	Terabytes Written (TBW)	up to 2,289 TBW
	Drive Writes Per Day (DWPD)	52.3 (3 yrs)
<b>Warranty</b>	Certificate	CE / FCC / BSMI / UKCA
	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.

## Assured Systems

Assured Systems is a leading technology company with over 1,500 regular clients in 80 countries, deploying over 85,000 systems to a diverse customer base in 12 years of business. We offer high-quality and innovative rugged computing, display, networking and data collection solutions to the embedded, industrial, and digital-out-of-home market sectors.

### US

[sales@assured-systems.com](mailto:sales@assured-systems.com)

Sales: +1 347 719 4508  
Support: +1 347 719 4508

1309 Coffeen Ave  
Ste 1200  
Sheridan  
WY 82801  
USA

### EMEA

[sales@assured-systems.com](mailto:sales@assured-systems.com)

Sales: +44 (0)1785 879 050  
Support: +44 (0)1785 879 050

Unit A5 Douglas Park  
Stone Business Park  
Stone  
ST15 0YJ  
United Kingdom

VAT Number: 120 9546 28  
Business Registration Number: 07699660