

## Embedded Solutions



### mSATA SSDs

# MSA470A & MSA470A-I

Transcend's mSATA SSD MSA470A is a self-encrypting drive (SED) that complies with the TCG Opal 2.0 standards. Data is protected using the hardware-based AES 256-bit encryption and LBA (Logical Block Address) sector-specific permissions.

Featuring the Serial ATA interface and built around a powerful controller, Transcend's SATA III 6Gb/s MSA470A mSATA SSD delivers blazing-fast performance. The MSA470A features the 112-layer 3D NAND technology for high storage efficiency, 30 $\mu$ m 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. Wide Temperature models (-40°C ~ 85°C) can be provided upon request. 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.

## Hardware Features

- Endurance: 3K P/E cycles (Program/Erase cycles) guaranteed
- Anti-sulfur technology implemented to prevent sulfurization in the environment
- 30 $\mu$ m PCB gold finger
- Key components fortified by default with Corner Bond technology
- Power Shield (PS) to ensure data transfer integrity and minimize data corruption in the drive during an abnormal power outage

## 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
- Dynamic thermal throttling
- Full drive encryption with Advanced Encryption Standard (AES)

## Ordering Information

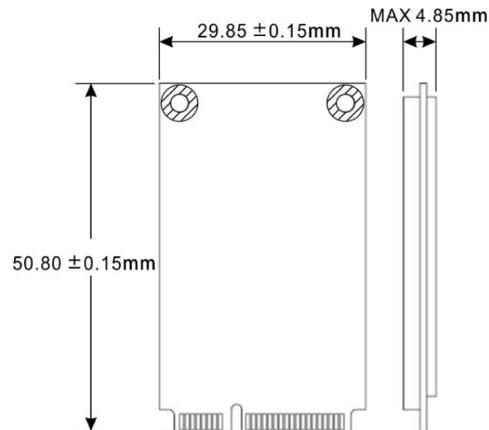
128GB	TS128GMSA470A TS128GMSA470A-I
256GB	TS256GMSA470A TS256GMSA470A-I
512GB	TS512GMSA470A TS512GMSA470A-I
1TB	TS1TMSA470A TS1TMSA470A-I

\*Supports Microsoft® eDrive standard

## 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	128 GB / 256 GB / 512 GB / 1 TB
	Flash Type	112-layer 3D NAND flash
<b>Operating Environment</b>	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)
<b>Power</b>	Power Consumption (Operation)	3.4 watt(s)
	Power Consumption (IDLE)	1.1 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 88,000 IOPS Write: Up to 80,000 IOPS
	Mean Time Between Failures (MTBF)	3,000,000 hour(s)
	Terabytes Written (TBW)	Up to 2,420 TBW
	Drive Writes Per Day (DWPD)	2.21 (3 yrs)
<b>Warranty</b>	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.