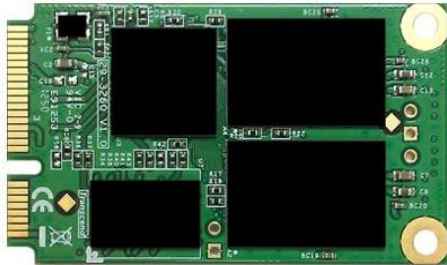# SATA II 3Gb/s mSATA SSD

- MO-300A Form Factor
- Fully compatible with devices and OS that support the SATA II 3Gb/s standard
- Non-volatile Flash Memory for outstanding data retention
- Built-in ECC (Error Correction Code) functionality and wear-leveling algorithm ensures reliable data transfer
- Advanced Garbage Collection
- Hardware Purge and Write Protect
- Supports Transcend SSD Scope Pro
- Advanced Power Shield

MSA630 Benefits

Transcend MSA630 is a SATA II 3Gb/s mSATA device built with high performance, quality Flash Memory assembled on a printed circuit board. It features cutting-edge technology to enhance product life and data retention. Designed with multitasking power users in mind, the MSA630 is capable of running many demanding system applications, including specialized multimedia computing and advanced gaming. As a result, MSA630 is the perfect storage device for industrial PCs, Laptops, gaming systems, and handheld devices.

Enhanced Performance

MSA630 is able to offer incredible transfer speeds of up to 260MB/s read and 80MB/s write. This fast speed translates into significantly faster system boot up, application launch speed, data transfers, and overall system responsiveness. Moreover, support for Native Command Queuing (NCQ), increases the performance and efficiency of the MSA630 by optimizing the order in which received read and write commands are executed.

Applications

The MSA630 which fits the standard dimensions of mSATA Hard Disk Drives boasts an ultra-slim to address the size limitations of today's modern Ultrabooks, notebooks, and other thin and light form factor devices. MSA630 not only provides resistance from shock and vibration, but also offers low power consumption and cool, silent operation to greatly benefit notebook users with increased efficiency and longer battery runtime. MSA630 also supports hardware purge which may quickly erase all data with a push of a button or write protect which may prevent any data from being modify.

Built-In Reliability

MSA630 utilizes advanced garbage collection algorithm which maintains SSD high performance even after long time operation. To further increase the lifespan of the SSD, built-in wear-leveling and Error Correction Code (ECC) ensure reliable data transfer, while full support of the S.M.A.R.T. command helps detect possible hard drive failures before they occur.

Placement
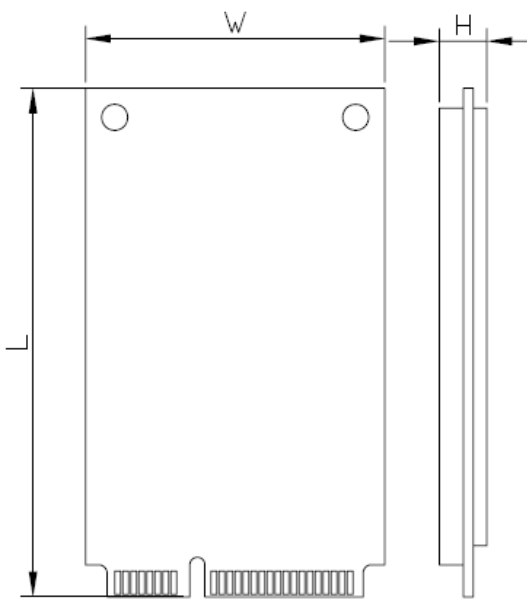
Dimensions

Side	Millimeters	Inches
L	50.80 ± 0.15	2.000 ± 0.006
W	29.85 ± 0.15	1.175 ± 0.006
H	3.70 ± 0.10	0.146 ± 0.004

Specifications

Environmental Specifications		
Operating Temperature		0 ℃ to 70 ℃ *
Storage Temperature		- 40 ℃ to 85 ℃
Humidity	Operating	0% to 95% (Non-condensing)
	Non-Operating	0% to 95% (Non-condensing)

*- 40 ℃ to 85 ℃ is optional

Physical Specification	
Form Factor	MO-300A
Storage Capacities	16 GB to 64 GB
Input Voltage	3.3V ± 5%
Weight	10g
Connector	PCI Express Mini Card Connector

Performance						
Model P/N	Sequential Read*	Sequential Write*	Random Read (4KB QD32)*	Random Write (4KB QD32)*	IOPS Random Read (4KB QD32)**	IOPS Random Write (4KB QD32)**
TS16GMSA630	125	20	66.0	18.5	13520	2055
TS32GMSA630	225	40	70.5	38.5	14385	3555
TS64GMSA630	260	80	70.5	68.0	14355	4155

Note: Maximum transfer speed recorded
* 25 ℃, test on ASUS P8P67 + Intel Core i5, 4GB, Windows[®] 7 with AHCI mode, benchmark utility Crystal DiskMark (version 3.0), copied file 1000MB, unit MB/s
** Random read/write performance based on IOmeter2006 with 4K file size and queue depth of 32 at full size LBA address, unit IOPs
*** The recorded performance is obtained while the SSD is not operating as an OS disk

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Power Consumption

Model P/N / Power Consumption		Typical (mA)
TS16GMSA630	Read	245
	Write	230
	Idle	170
TS32GMSA630	Read	320
	Write	305
	Idle	170
TS64GMSA630	Read	325
	Write	400
	Idle	180

*Tested with IOmeter running sequential reads/writes and idle mode

Reliability

Data Reliability	Supports 40 bits per 1024 bytes
MTBF	1,000,000 hours
Endurance (TeraBytes Written)*	16G: 17.0 (TB) 32G: 35.0 (TB) 64G: 76.0 (TB)

*Note: Based on JEDEC JESD218 & 219A specification,

Client application class. And based on the following scenario:

Active use: 40°C, 8hrs/day; Retention use: 30°C 1year

Vibration

Operating	3.0G(peak-to-peak), 5 - 800Hz
Non-Operating	5.0G(peak-to-peak), 5 - 800Hz

*Note: Reference to the IEC 60068-2-6 Testing procedures;

Operating-Sine wave, 5-800Hz/1 oct., 1.5mm, 3g, 0.5 hr./axis, total 1.5hrs.

Shock

Operating	1500G, 0.5ms
Non-Operating	1500G, 0.5ms

*Reference to IEC 60068-2-27 Testing procedures; Operating-Half-sine wave, 1500G, 0.5ms, 3 times/dir., total 18 times.