SATA III 6Gb/s SSD

- RoHS compliant
- Fully compatible with devices and OS that support the SATA III 6Gb/s standard
- With DDR3 DRAM cache
- Non-volatile Flash Memory for outstanding data retention
- Built-in ECC (Error Correction Code) functionality and wear-leveling algorithm ensures highly reliable of data transfer
- Support DevSleep mode
- Support Intel ISRT function
- Support Trim and NCQ command
- Shock resistance

SSD340 Benefits

Transcend's SSD340 is a SATA III 6Gb/s SSD 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 SSD340 is capable of running many demanding system applications, including specialized multimedia computing and advanced gaming. As a result, the SSD340 is the ultimate performance upgrade for various applications, such as Ultrabooks, PCs, Laptops, gaming systems, and handheld devices.

Enhanced Performance

SSD340 combining the latest SATA III 6Gb/s specification with JMicron controller, the SSD340 is able to offer incredible transfer speeds of up to 520MB/s read and 290MB/s write, application launch speed, data transfers, and overall system responsiveness. Moreover, SSD340 also supports DevSleep mode, which allows devices to completely shut down the SATA interface and conserve battery life unlike existing partial/slumber states.

Applications

The SSD340 boasts a super slim thickness of just 7mm to address the size limitations of today's modern Ultrabooks, notebooks, and other thin and light form factor devices. The 7mm SSD340 uses the same SATA connector used on a 2.5" hard disk drive (HDD) and is backwards compatible with SATA II/I (3Gbps/1.5Gbps) connection options. SSD340 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.

Placement

Dimensions

Side	Millimeters	Inches
A	99.80 ± 0.25	3.929 ± 0.01
B	69.80 ± 0.25	2.748 ± 0.01
C	7.00 ± 0.15	0.276 ± 0.006

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)

Physical Specification	
Form Factor	2.5-inch HDD
Storage Capacities	64 GB to 256 GB
Input Voltage	5V ± 5%
Weight	52g
Connector	SATA 7+15 pins combo connector

Performance

Model P/N	ATTO		AS SSD		CrystalDiskMark				IOmeter	
	Max. Read *	Max. Write *	Sequential Read **	Sequential Write **	Sequential Read ***	Sequential Write ***	Random Read (4KB QD32) ***	Random Write (4KB QD32) ***	IOPS Random Read (4KB QD32) ****	IOPS Random Write (4KB QD32) ****
TS64GSSD340	364	73	285	69	293	72	134	72	33096	17674
TS128GSSD340	530	145	475	137	499	144	255	144	62764	35586
TS256GSSD340	518	285	483	269	490	285	274	281	67661	68523

Note: Maximum transfer speed recorded

* 25 ℃， test on ASUS P8Z77-V , 4GB, Windows® 7 with AHCI mode, benchmark utility ATTO (version 2.41), unit MB/s

** 25 ℃， test on ASUS P8Z77-V , 4GB, Windows® 7 with AHCI mode, benchmark utility AS SSD (version 1.6.4237.30508), unit MB/s

*** 25 ℃， test on ASUS P8Z77-V-, 4GB, Windows® 7 Professional with AHCI mode, benchmark utility CrystalDiskMark (version 3.0), copied file 1000MB, unit MB/s

**** 25 ℃， test on ASUS P8Z77-V, 4GB, Windows® 7 with AHCI mode, benchmark utility IOmeter2008 with 4K file size and queue depth of 32, unit IOPs

***** The recorded performance is obtained while the SSD is not operating as an OS disk

Note: Maximum transfer speed recorded

Power Consumption

Model P/N / Power Consumption		Typical (mA)
TS64GSSD340	**Read**	282
	Write	265
	Idle	106
TS128GSSD340	**Read**	304
	Write	395
	Idle	107
TS256GSSD340	**Read**	325
	Write	749
	Idle	109

*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)	64G: 66 TBW 128G: 106 TBW 256G: 141 TBW

Note: Endurance test follow JESD219A SPEC.

Vibration

Operating	5.0G(peak-to-peak), 5 - 800Hz
Non-Operating	20.0G(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

SATA III 6Gb/s SSD

- Super slim thickness of 7mm
- SandForce Driven
- Internal AES encryption
- Fully compatible with devices and OS that support the SATA III 6Gb/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
- Support TRIM and NCQ command

SSD320 Benefits

Transcend's SSD320 is a SATA III 6Gb/s SSD 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 SSD320 is capable of running many demanding system applications, including specialized multimedia computing and advanced gaming. As a result, the SSD320 is the ultimate performance upgrade for various applications, such as Ultrabooks, PCs, Laptops, gaming systems, and handheld devices.

Enhanced Performance

Combining the latest SATA III 6Gb/s specification with a powerful SandForce Driven controller, the SSD320 is able to offer incredible transfer speeds of up to 540MB/s read and 520MB/s write, taking a mere 15 seconds to transfer a 4.7GB DVD. This ultrafast 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 SSD320 by optimizing the order in which received read and write commands are executed.

High-End Applications

The SSD320 boasts a super slim thickness of just 7mm to address the size limitations of today's modern Ultrabooks, notebooks, and other thin and light form factor devices. The 7mm SSD320 uses the same SATA connector used on a 2.5" hard disk drive (HDD) and is backwards compatible with SATA II/I (3Gbps/1.5Gbps) connection options. SSD320 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.

Built-In Reliability

For Windows 7 users, the SSD320 fully supports the TRIM command to automatically remove deleted data permanently, helping to maintain optimum write speeds and prevent long-term SSD wear. For operating systems that do not support the TRIM command, the SSD320 utilizes an intelligent garbage collection algorithm for advanced free space management. 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
A	99.80 ± 0.25	3.929 ± 0.01
B	69.80 ± 0.25	2.748 ± 0.01
C	7.00 ± 0.15	0.276 ± 0.006

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)

Physical Specification	
Form Factor	2.5-inch HDD
Storage Capacities	64 GB to 256 GB
Input Voltage	5V ± 5%
Weight	52g
Connector	SATA 7+15 pins combo connector

Performance

Model P/N	ATTO		AS SSD		CrystalDiskMark				IOmeter	
	Max. Read *	Max. Write *	Sequential Read **	Sequential Write **	Sequential Read ***	Sequential Write ***	Random Read (4KB QD32) ***	Random Write (4KB QD32) ***	IOPS Random Read (4KB QD32) ****	IOPS Random Write (4KB QD32) ****
TS64GSSD320	532.4	499.1	155.8	69.1	162.2	71.8	42.0	70.7	9,977	85,608
TS128GSSD320	520.1	513.6	180.2	134.1	184.5	141.5	81.2	138.2	17,519	87,728
TS256GSSD320	544.1	518.7	182.7	221.7	188.1	234.5	96.5	227.9	32,502	89,124

Note: Maximum transfer speed recorded
*** 25 ℃, test on P8Z68-V PRO, 4GB, Windows® 7 with AHCI mode, benchmark utility ATTO (version 2.41), unit MB/s**
**** 25 ℃, test on P8Z68-V PRO, 4GB, Windows® 7 with AHCI mode, benchmark utility AS SSD (version 1.6.4237.30508), unit MB/s**
***** 25 ℃, test on ASUS P8Z68-V PRO, 4GB, Windows® 7 Professional with AHCI mode, benchmark utility CrystalDiskMark (version 3.0), copied file 1000MB, unit MB/s**
****** 25 ℃, test on ASUS P8Z68-V PRO, 4GB, Windows® 7 with AHCI mode, benchmark utility IOmeter2008 with 4K file size and queue depth of 32, unit IOPs**
******* The recorded performance is obtained while the SSD is not operating as an OS disk**

Power Requirements

Input Voltage		5V ± 5% @25℃
Mode P/N / Power Consumption		**Typical (mA)**
TS64GSSD320	Read	325
	Write	433
	Idle	122
TS128GSSD320	Read	333
	Write	438
	Idle	125
TS256GSSD320	Read	340
	Write	400
	Idle	121

Reliability

Data Reliability	Supports 55 bits in 512 bytes
MTBF	1,000,000 hours

Vibration

Operating	5G(peak-to-peak), 5 - 800Hz
Non-Operating	20G(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 1.5 hrs.

Shock

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