SATA III 6Gb/s SSD

- Advanced Global Wear-Leveling and Block management for reliability
- Advanced Garbage Collection
- With DDR3 DRAM cache
- Built-in ECC (Error Correction Code) functionality
- Advanced power shield to prevent data loss in the event of a sudden power loss
- Supports DEVSLP mode
- Real time full drive encryption with Advanced Encryption Standard (AES) (Optional)
- Supports Enhanced S.M.A.R.T. function
- RoHS compliant
- Shock resistance
- Slim, elegant, and light

SSD370 Benefits

Transcend's SSD370 is a SATA III 6Gb/s SSD built with high performance and high quality Flash Memory. It features cutting-edge technology to enhance product life and data retention. Designed with multitasking power users in mind, the SSD370 is capable of running many demanding system applications, including specialized multimedia computing and advanced gaming. As a result, the SSD370 is the ultimate performance upgrade for various applications, such as Ultrabooks, PCs, Laptops, gaming systems, and handheld devices.

Enhanced Performance

SSD370 utilizes the latest SATA III 6Gb/s specification with a Transcend controller to deliver incredible transfer speeds of up to 570MB/s read and 460 MB/s write. Thereby improving application launch speed, data transfer rate, and overall system responsiveness. The SSD370 also supports DEVSLP mode, which allows devices to completely shut down the SATA interface and conserve battery life unlike existing partial/slumber states.

Applications

The SSD370 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 7 mm SSD370 uses the same SATA connector used on a SATA III 2.5" hard disk drive (HDD) and is backwards compatible with SATA II/I (3Gbps/1.5Gbps) connection options. The SSD370 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 runtimes.

Placement
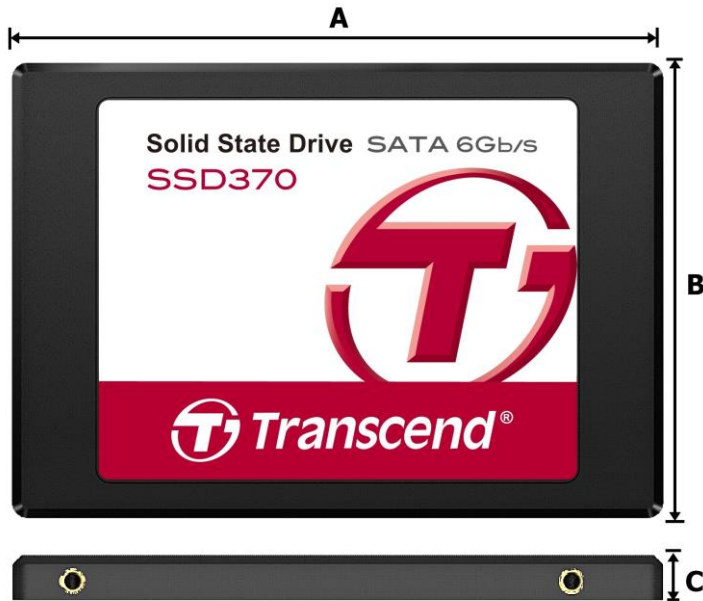
Dimensions

Side	Millimeters	Inches
A	99.80 $\pm$ 0.25	3.929 $\pm$ 0.01
B	69.80 $\pm$ 0.25	2.748 $\pm$ 0.01
C	7.00 $-$ 0.3	0.276 $-$ 0.012

Specifications

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

Physical Specification	
Form Factor	2.5 inch HDD
Storage Capacities	32 GB to 1 TB
Input Voltage	5V $\pm$ 5%
Weight	52 $\pm$ 2 g
Connector	SATA 22 pins connector

Performance

Model P/N	ATTO		CrystalDiskMark				IOmeter	
	Max. Read *	Max. Write *	Sequential Read **	Sequential Write **	Random Read (4KB QD32) **	Random Write (4KB QD32) **	IOPS Random Read (4KB QD32) ***	IOPS Random Write (4KB QD32) ***
TS32GSSD370	230	40	230	40	90	40	20K	10K
TS64GSSD370	450	80	440	80	170	80	40K	20K
TS128GSSD370	550	170	520	170	270	170	70K	40K
TS256GSSD370	570	320	520	320	300	300	70K	70K
TS512GSSD370	550	460	520	450	300	300	75K	75K
TS1TSSD370	560	460	520	460	300	300	75K	75K

Note: Maximum transfer speed recorded

* 25 ºC,   test on ASUS P8Z68-M PRO, 4 GB, Windows® 7 Professional with AHCI mode, benchmark utility ATTO (version 2.41), unit MB/s

** 25 ºC,   test on ASUS P8Z68-M PRO, 4 GB, Windows® 7 Professional with AHCI mode, benchmark utility CrystalDiskMark (version 3.0.1), copied file 1000MB, unit MB / s

*** 25 ºC,   test on ASUS P8Z68-M PRO, 4 GB, Windows® 7 Professional   with AHCI mode, benchmark utility IOmeter2006 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 ºC
Mode P/N / Power Consumption		**Typical (mA)**
TS32GSSD370	Read	175
	Write	180
	Idle	61
TS64GSSD370	Read	238
	Write	255
	Idle	61
TS128GSSD370	Read	241
	Write	384
	Idle	61
TS256GSSD370	Read	255
	Write	621
	Idle	64
TS512GSSD370	Read	285
	Write	643
	Idle	65
TS1TSSD370	Read	352
	Write	692
	Idle	67

Reliability	
Data Reliability	Supports 60 bits per 1024 bytes
MTBF	1,500,000 hours
Endurance (Tera Bytes Written)	32G: 45 TBW
	64G: 80 TBW
	128G: 150 TBW
	256G: 280 TBW
	512G: 550 TBW
	1T: 1180 TBW

Note: Tested under JESD218A endurance test method and JESD219A endurance workloads specification.

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., 1.5 mm, 3 g, 0.5 hr / axis, total 1.5 hrs.

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

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

SATA III 6Gb/s SSD

Solid State Drive SATA 6Gb/s
SSD340

Transcend®

- 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
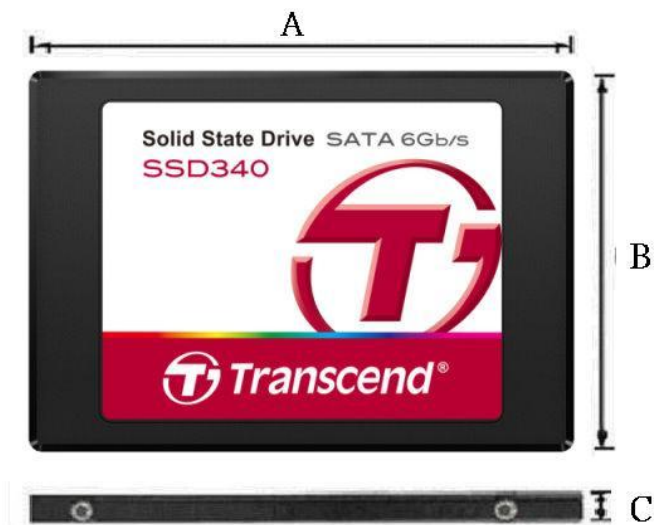
Dimensions

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

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

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

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