

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

SSD740 Benefits

Transcend's SSD740 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 SSD740 is capable of running many demanding system applications, including specialized multimedia computing and advanced gaming. As a result, the SSD740 is the ultimate performance upgrade for various applications, such as Ultrabooks, PCs, Laptops, gaming systems, and handheld devices.

Enhanced Performance

SSD740 combining the latest SATA III 6Gb/s specification with JMicron controller, the SSD740 is able to offer incredible transfer speeds of up to 520MB/s read and 470MB/s write, application launch speed, data transfers, and overall system responsiveness. Moreover, SSD740 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 SSD740 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 SSD740 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. SSD740 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



Specifications

Environmental Specifications		
Operating Temperature		0 °C to 70 °C
Storage Temperature		- 40 °C to 85 °C
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) ****
TS64GSSD740	514.98	180.66	477.58	160.11	491.8	177.5	286.9	173.4	70387	36170
TS128GSSD740	517.47	320.36	473.01	297.51	492.5	317.7	283.9	270.8	70360	60933
TS256GSSD740	525.06	467.42	474.3	435.23	493.8	439.5	282.6	267.0	67880	65630

Note: Maximum transfer speed recorded

* 25 °C, test on P8Z68-V PRO, 4GB, Windows® 7 with AHCI mode, benchmark utility ATTO (version 2.41), unit MB/s

** 25 °C, test on P8Z68-V PRO, 4GB, Windows® 7 with AHCI mode, benchmark utility AS SSD (version 1.6.4237.30508), unit MB/s

*** 25 °C, 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 °C, 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

Note: Maximum transfer speed recorded

Power Consumption		
Model P/N / Power Consumption	Typical (mA)	
TS64GSSD740	Read	372
	Write	328
	Idle	80
TS128GSSD740	Read	380
	Write	476
	Idle	82
TS256GSSD740	Read	388
	Write	571
	Idle	86

*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: 26 TBW 128G: 50 TBW 256G: 77 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

SSD720 Benefits

Transcend's SSD720 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 SSD720 is capable of running many demanding system applications, including specialized multimedia computing and advanced gaming. As a result, the SSD720 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 SSD720 is able to offer incredible transfer speeds of up to 560MB/s read and 540MB/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 SSD720 by optimizing the order in which received read and write commands are executed.

High-End Applications

The SSD720 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 SSD720 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. SSD720 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 SSD720 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 SSD720 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 °C to 70 °C
Storage Temperature		- 40 °C to 85 °C
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 512 GB
Input Voltage	5V ± 5%
Weight	95g
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) ****
TS64GSSD720	556.7	514.9	326.44	67.28	387.5	85.27	64.78	83.49	16458	89684
TS128GSSD720	557.9	523.8	474.28	152.70	451.9	162.0	122.1	158.6	29029	91124
TS256GSSD720	557.9	535.7	509.34	278.78	498.1	291.9	221.4	234.8	46731	92521
TS512GSSD720	535.7	493.7	499.03	255.63	484.5	248.1	180.3	67.7	56742	56559

Note: Maximum transfer speed recorded

* 25 °C, test on P8Z68-V PRO, 4GB, Windows® 7 with AHCI mode, benchmark utility ATTO (version 2.41), unit MB/s

** 25 °C, test on P8Z68-V PRO, 4GB, Windows® 7 with AHCI mode, benchmark utility AS SSD (version 1.6.4237.30508), unit MB/s

*** 25 °C, 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 °C, 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°C
Mode P/N / Power Consumption		Typical (mA)
TS64GSSD720	Read	301
	Write	442
	Idle	125
TS128GSSD720	Read	304
	Write	667
	Idle	125
TS256GSSD720	Read	483
	Write	875
	Idle	129
TS512GSSD720	Read	557
	Write	920
	Idle	126

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