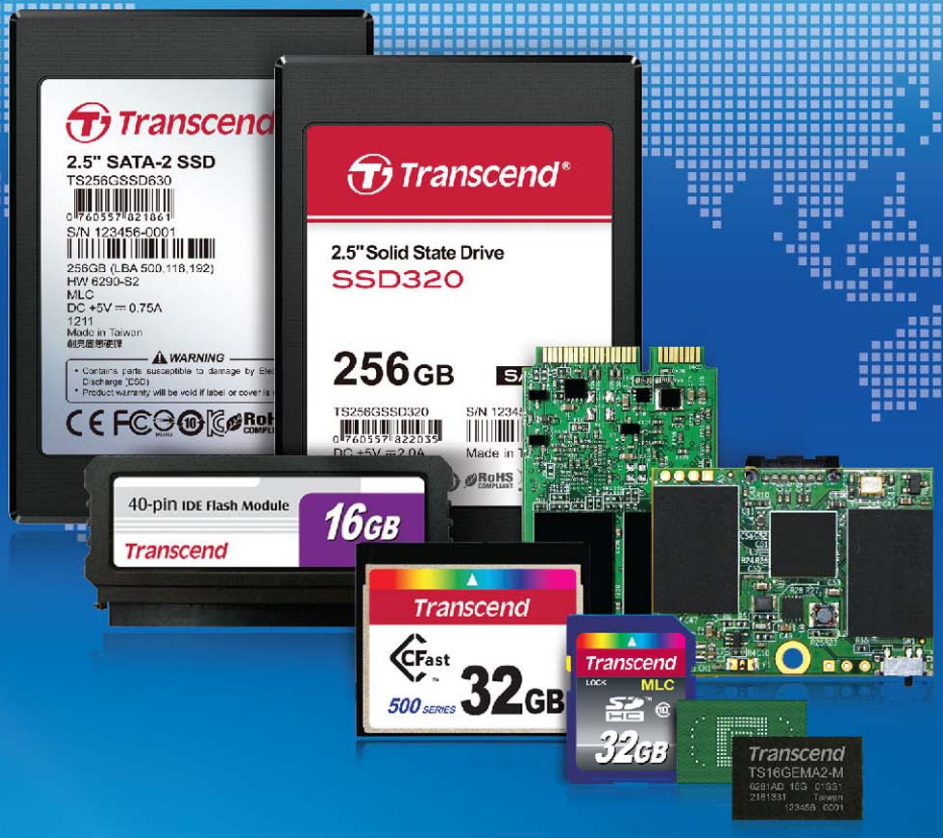
Transcend®
good memories start here

Product Overview 2013

Industrial Products



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About Transcend

Leveraging over 20 years of industrial-grade manufacturing expertise, Transcend has built a great reputation as one of the world's most innovative developers of high quality and reliable industrial-grade memory devices. Continuing research and development investment allows us to create cutting-edge new products for industrial computing applications.

Excellent Industrial Products

Transcend's lineup of industrial-grade products includes Industrial CF Cards, Industrial SD cards, SATA Flash Modules, PATA Flash Modules, USB Flash Modules, Industrial Solid State Drives and mSATA Solid State Drives. All products designed for industrial customers meet extreme reliability and endurance requirements. In particular, Transcend's industrial SSD solutions offer the perfect replacement for traditional hard drives and have undergone strict qualification testing to guarantee product dependability, reliability, and longevity.

Our Competencies

Transcend's industrial-grade products target extremely demanding applications in rugged environments in terms of shock, vibration, humidity and temperature. In addition to standard products, we offer customized industrial-grade products to fit your specific application demands.

QUALITY : Transcend qualifies all components and tests all industrial-grade products in every stage of production.
EXPERTISE: Transcend has an experienced in-house Research & Development team.
COMPATIBILITY: Transcend customizes most industrial-grade products, can lock the bill-of-materials, and guarantees 100% compatibility.
RELIABILITY: Transcend is one of the top memory product manufacturers in the world.
CONVENIENCE: Transcend provides a wide range of storage solutions for thousands of different IPC systems.

Why Choose Transcend

PRODUCT SELECTION
-Comprehensive portfolio of DRAM modules and NAND Flash Solid State Drives
-Extensive memory lineup includes current and legacy DDR3, DDR2, DDR, SDRAM, and DRAM modules
-Interface flexibility – SATA, mSATA, PATA, eMMC, CF, CFast, USB, and SD flash products
-Revolutionary Chip-On-Board (COB) technology
-Industrial grade temperature options for both DRAM and Flash products

SALES AND ENGINEERING SUPPORT
-Prompt, helpful, and competent sales staff available round-the-clock to assist you
-We help create cost-effective, marketable solutions based on your requirements and our market expertise
-Our expert technical staff is well versed in product and industry knowledge
-Fast turnaround on sample and production orders
-Global distribution centers for efficient delivery

IN-HOUSE MANUFACTURING
-Guaranteed Production Quality
-Flexible Manufacturing Process
-Thorough Functional and Stability Testing
-Stringent Quality Control Standards
-Faster Time-to-market

CUSTOMIZATION
-Custom Stickers and Logo Printing
-Customized Package Designs
-Preloaded Device Content
-Firmware Optimization for Specific Applications
-OEM/ODM Services

INDUSTRIAL / OEM SERVICES
-Bill of Materials (BOM) Management
-Serial and Lot Code Tracking
-Quality Control and Engineering Documentation
-Extended Support for Long Product Life Cycles
-Vendor-managed Inventory (VMI)

RELIABILITY TESTING
-Vibration
-Temperature Cycling
-High Temperature Storage
-High Temperature Operation
-Low Temperature Operation
-Room Temperature Operation
-Frequency Margin
-VDD Voltage Margin

WINDOWS APPLICATION TESTING
-Boot-up & Shut-down
-S3 Sleep Mode
-3DMark
-Multi-threading

Industrial PC Applications

TRANSCEND INDUSTRIAL PRODUCTS ARE WIDELY USED IN ALL AREAS OF INDUSTRY

Industrial computers (also known as IPCs) are PC-based computer platforms for industrial applications. Our clients include leading vendors of industrial computer equipment, and our products are widely used in factory automation, medical equipment, military applications, data acquisition, banking/ATMs, gaming, transportation, POS/POI, kiosks, vending machines, digital signage, and more.

Product Features

Key features shown at top of each page

Look for the following icons on each product page to check support for key features such as wide-temperature operation and power-loss protection.

Industrial Temperature
Wide operating temperature range from -40°C to 85°C

Advanced Power Shield
Hardware-based power loss protection

Shock & Vibration
Excellent resistance to excessive shock and vibration

Zone Protection
Built-in protected area to secure important data

Conformal Coating
Conformal coating protection from environmental contaminants

2.5" SATA III SSD

MLC

Specifications

Interface	SATA III 6Gb/s (backwards compatible with SATA II/I)
Connection Type	SATA (7+15-pin)
Form Factor	2.5"
Flash Type	SSD720: Toggle MLC, SSD320: Asynchronous MLC
Controller	SandForce SF-2281
Capacity	64GB/128GB/256GB
Max. Transfer Performance (Varies by density)	SSD720: Seq. Read: 560MB/s, Seq. Write: 540MB/s Max. 4k random file read: 47,000 IOPS Max. 4k random file write: 93,000 IOPS SSD320: Seq. Read: 560MB/s, Seq. Write: 530MB/s Max. 4k random file read: 49,000 IOPS Max. 4k random file write: 87,000 IOPS
Operating Voltage	5V±5%
Power Consumption	5W (active), 0.625W (idle)
Operating Temp.	0°C~70°C
Storage Temp.	-40°C~85°C
Humidity	0%~95%
Shock	1,500G
Vibration (Hz/G)	3.0G (Peak-to-Peak), 5-800Hz (Frequency)
Dimensions	99.8mm x 69.8mm x 7mm
MTBF	1,000,000hrs

● Supported
○ By Request
- Not available

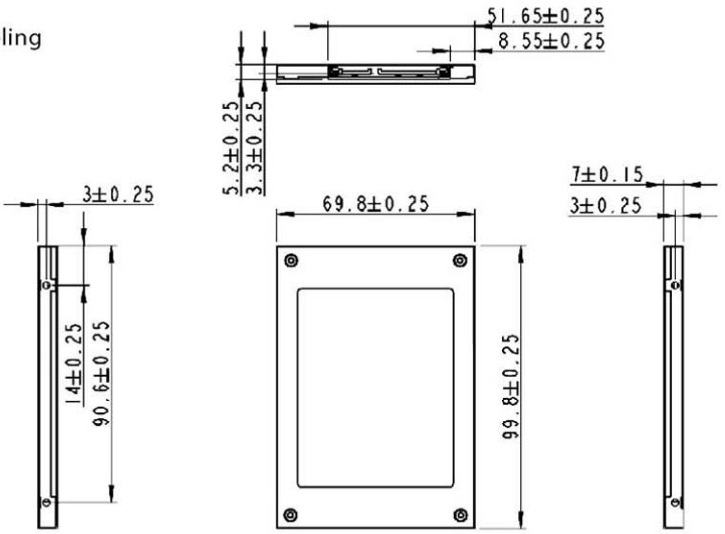
SSD720	–	–	●	–	–
SSD320	–	–	●	–	–

Features

- Faster load times & lag-free multitasking
- Slim 7mm drive height
- Powerful SandForce controller with ultra-fast MLC flash chips
- DuraWrite technology ensures ultimate reliability, retention, and power handling
- Supports TRIM, NCQ, S.M.A.R.T. and firmware updates
- Silent, low-power operation. Resistant to shock and vibration
- Backwards compatible with SATA II (3Gb/s) and SATA I (1.5Gb/s)
- Built-in ECC (Error Correction Code) functionality and wear-leveling algorithm ensures reliable data transfer

Ordering Information

SSD720	TS64GSSD720	64GB
	TS128GSSD720	128GB
	TS256GSSD720	256GB
SSD320	TS64GSSD320	64GB
	TS128GSSD320	128GB
	TS256GSSD320	256GB



*Tighten mounting screws with no more than 1.0kg-cm (0.07 ft-1bs) of torque.

2.5" SATA II SSD

Specifications

Interface	SATA II 3Gb/s (backwards compatible with SATA I)
Connection Type	SATA (7+15-pin)
Form Factor	2.5"
Flash Type	MLC, SLC
Capacity	MLC: 32GB/64GB/128GB/256GB SLC: 8GB/16GB/32GB/64GB
Max. Transfer Performance (Varies by density)	MLC: Read: 265MB/s, Write: 225MB/s SLC: Read: 260MB/s, Write: 230MB/s
Operating Voltage	5V±5%
Power Consumption	4.3W (active), 0.75W (idle)
Operating Temp.	Standard: 0°C~70°C MLC: -40°C~85°C (optional) SLC: -40°C~85°C (optional)
Storage Temp.	-40°C~85°C
Humidity	0%~95%
Shock	1,500G
Vibration (Hz/G)	5.0G (Peak-to-Peak), 5-800Hz (Frequency)
Dimensions	SSD500/500I: 100.3mm x 69.85mm x 9.5mm SSD630: 99.8mm x 69.87mm x 7mm
MTBF	1,000,000hrs

● Supported
○ By Request
– Not available

SSD630	○	●	●	–	–
SSD500	–	–	●		–
SSD500I	●	–	●	–	–

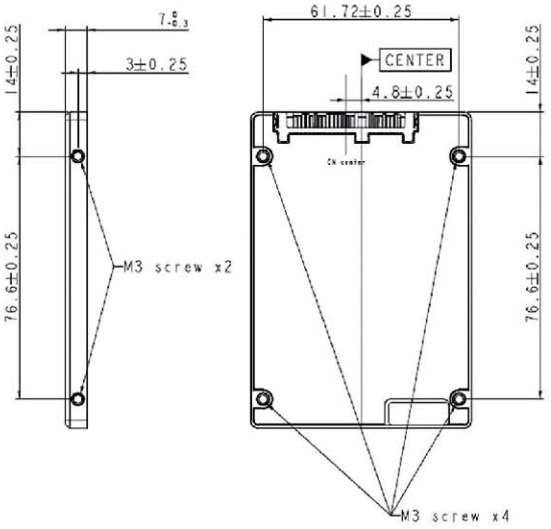
Features

- Suitable for wide-temperature applications (industrial versions available upon request)
- Built-in ECC and wear-leveling to ensure reliable data transfer
- Supports hot swapping in AHCI mode
- Embedded 64MB DDR2 SDRAM cache buffer
- TRIM command and NCQ support
- Advanced S.M.A.R.T. and software monitoring tools
- Built-in Advanced Power Shield active monitoring circuit prevents data loss in the event of a sudden power outage (SSD630)
- Built-in support for Write Protect and HW Purge security functions

Ordering Information

SSD630	*MLC*	TS32GSSD630	32GB
		TS64GSSD630	64GB
		TS128GSSD630	128GB
		TS256GSSD630	256GB
SSD500	*SLC*	TS8GSSD500	8GB
		TS8GSSD500I	8GB
		TS16GSSD500	16GB
		TS32GSSD500	32GB
		TS32GSSD500I	32GB
		TS64GSSD500	64GB

Other Industrial temp. capacities available by request



*Tighten mounting screws with no more than 1.0kg-cm (0.07 ft-1bs) of torque.

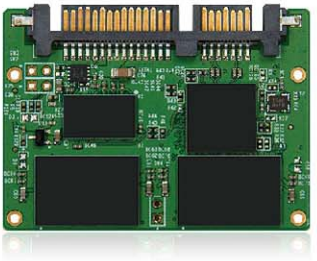
Half Slim SATA II SSD

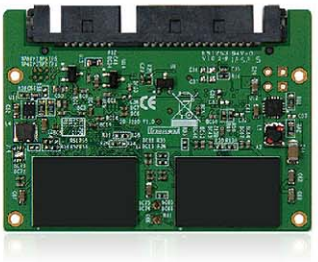
Specifications

Interface	SATA II 3Gb/s (backwards compatible with SATA I)
Connection Type	SATA (7+15-pin)
Form Factor	Half Slim MO-297A
Flash Type	MLC, SLC
Capacity	MLC: 16GB/32GB/64GB/128GB SLC: 1GB/2GB/4GB/8GB
Max. Transfer Performance (Varies by density)	MLC: Read: 265MB/s, Write: 225MB/s SLC: Read: 95MB/s, Write: 75MB/s
Operating Voltage	5V±5%
Power Consumption	1.6W (active), 0.7W (idle)
Operating Temp.	0°C~70°C (Industrial MLC: -40°C~85°C)
Storage Temp.	-40°C~85°C
Humidity	0%~95%
Shock	1,500G, 0.5ms, 3 axis
Vibration (Hz/G)	3.0G (Peak-to-Peak), 5-800Hz (Frequency)
Dimensions	54.0mm x 39.00mm x 4.0mm
MTBF	1,000,000hrs

• Supported
○ By Request
- Not available

HSD630	○	•	•	-	-
SSD25H-S	○	○	•	-	-





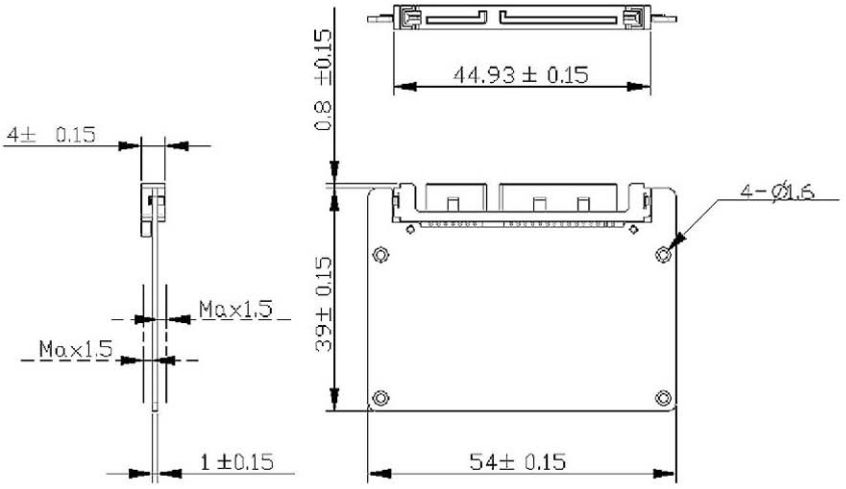
Features

- Suitable for wide-temperature applications (industrial versions available upon request)
- On-chip hardware BCH-ECC engine corrects up to 40 bit errors per 1,024 bytes of data
- Embedded 64MB DDR2 SDRAM cache buffer
- Supports AHCI mode, TRIM commands and NCQ
- Compliant with JEDEC MO-297A and SATA II 3Gb/s
- Specifically designed for mobile devices such as tablets and notebooks
- Advanced S.M.A.R.T. and SSD Scope Pro drive health monitoring tools
- Built-in Advanced Power Shield active monitoring circuit prevents data loss in the event of a sudden power outage
- Efficient Global Wear-Leveling and Block Management ensure long-term reliability

Ordering Information

HSD630	***MLC***	TS16GHSD630	16GB
		TS32GHSD630	32GB
		TS64GHSD630	64GB
		TS128GHSD630	128GB
SSD25H-S	***SLC***	TS1GSSD25H-S	1GB
		TS2GSSD25H-S	2GB
		TS4GSSD25H-S	4GB
		TS8GSSD25H-S	8GB

Industrial temp. capacities available by request



*Tighten mounting screws with no more than 1.0kg-cm (0.07 ft-1bs) of torque.

mSATA SSD

Specifications

Interface	SATA III 6Gb/s (MSA740) SATAII 3Gb/s (MSA630/500)
Connection Type	mSATA 52-pin
Form Factor	MO-300A
Flash Type	MLC, SLC
Capacity	SATA II - MLC: 16GB/32GB/64GB/128GB SLC: 1GB/2GB/4GB/8GB SATA III - 32GB/64GB/128GB
Max. Transfer Performance (Varies by density)	SATA II - MLC: Read: 265MB/s, Write: 225MB/s SLC: Read: 100MB/s, Write: 90MB/s SATA III - MLC: Read: 520MB/s, Write: 270MB/s
Operating Voltage	3.3V±5%
Power Consumption	SATA II: 1.4W (write), 0.6W (idle) SATA III: 2.97W (active), 0.5W (idle)
Operating Temp.	Standard: 0°C~70°C MLC: -25°C~85°C (optional) SLC: -40°C~85°C (optional)
Storage Temp.	-40°C~85°C
Humidity	0%~95%
Shock	1,500G, 0.5ms, 3 axis
Vibration (Hz/G)	3G (Peak-to-Peak) , 5Hz to 800Hz (Frequency)
Dimensions	SATA II: 50.8mm x 29.85mm x 3.5mm SATA III: 50.8mm x 29.85mm x 4.2mm
MTBF	1,000,000hrs

● Supported
○ By Request
– Not available

MSA740	–	○	●	–	–
MSA630	○	●	●	–	–
MSA500	○	○	●	–	–

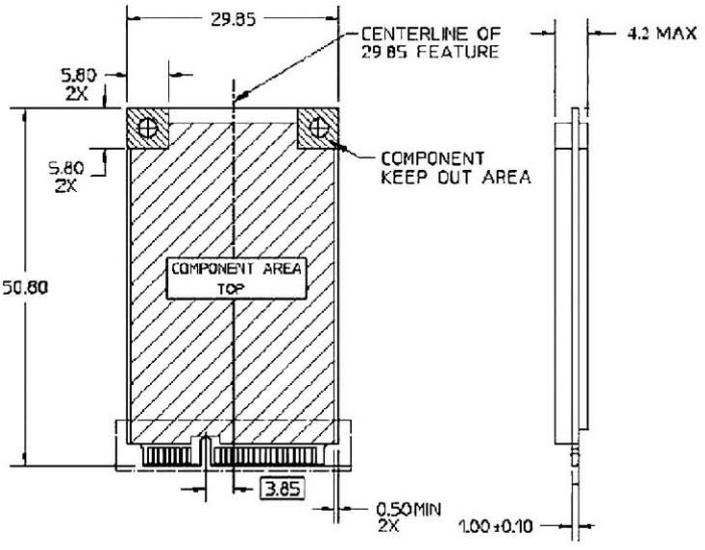
Features

- Suitable for wide-temperature applications (industrial versions available upon request)
- On-chip hardware BCH-ECC engine corrects up to 40 bit errors per 1,024 bytes of data
- Built-in Advanced Power Shield active monitoring circuit prevents data loss in the event of a sudden power outage (MSA630)
- Built-in support for Write Protect and HW Purge security functions (MSA630)
- Supports AHCI mode, TRIM commands and NCQ

Ordering Information

MSA740	*MLC*	TS32GMSA740	32GB
		TS64GMSA740	64GB
		TS128GMSA740	128GB
MSA630	*MLC*	TS16GMSA630	16GB
		TS32GMSA630	32GB
		TS64GMSA630	64GB
		TS128GMSA630	128GB
MSA500	*SLC*	TS1GMSA500**	1GB
		TS2GMSA500*	2GB
		TS4GMSA500*	4GB
		TS8GMSA500*	8GB

*Industrial temp. version available by request
**Special request item



(MSA720)
*Tighten mounting screws with no more than 1.0kg-cm (0.07 ft-1bs) of torque.

2.5" PATA SSD

SLC MLC

Specifications

Interface	True IDE
Connection Type	44-pin, 2.0mm pitch
Form Factor	2.5"
Flash Type	MLC, SLC
Capacity	MLC: 32GB/64GB/128GB SLC: 8GB/16GB/32GB/64GB
Max. Transfer Performance (Varies by density)	MLC: Read: 119MB/s, Write: 93MB/s SLC: Read: 118MB/s, Write: 102MB/s
Operating Voltage	5V±5%
Power Consumption	1.3W (active), 0.04W (idle)
Operating Temp.	Standard: 0°C~70°C MLC: -25°C~85°C (optional) SLC: -40°C~85°C (optional)
Storage Temp.	-40°C~85°C
Humidity	0%~95%
Shock	1,500G
Vibration (Hz/G)	3.0G (Peak-to-Peak), 5-800Hz (Frequency)
Dimensions	100.3mm x 69.85mm x 7.4mm
MTBF	1,000,000hrs

• Supported
○ By Request
- Not available

PSD330	○	•	•	-	-
PSD520	○	•	•	-	-

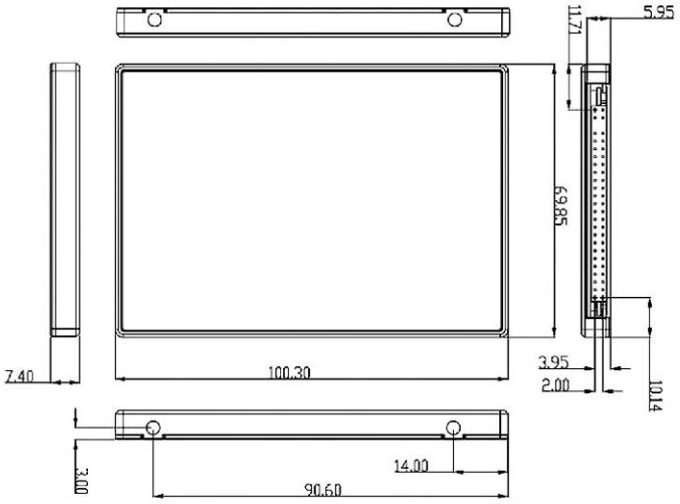
Features

- Suitable for wide-temperature applications (industrial versions available upon request)
- Supports up to Ultra DMA Mode 6, Multi-word DMA Mode 2 , and PIO Mode 4
- Fast system boot-up and smooth software application performance
- Supports security functions, S.M.A.R.T., and software monitoring
- Built-in Advanced Power Shield active monitoring circuit prevents data loss in the event of a sudden power outage
- On-chip hardware BCH-ECC engine corrects up to 40 bit errors per 1,024 bytes of data

Ordering Information

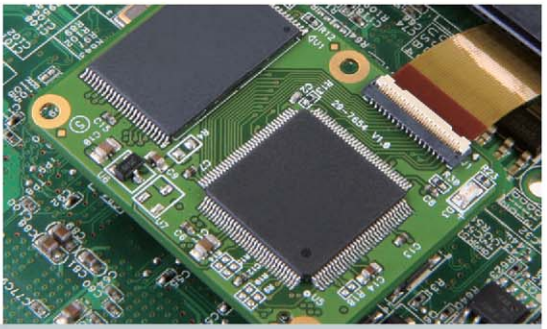
PSD330	*MLC*	TS32GPSD330	32GB
		TS64GPSD330	64GB
		TS128GPSD330	128GB
PSD520	*SLC*	TS8GPSD520	8GB
		TS16GPSD520	16GB
		TS32GPSD520	32GB
		TS64GPSD520	64GB

*Industrial temp. versions available by request



*Tighten mounting screws with no more than 1.0kg-cm (0.07 ft-1bs) of torque.

1.0" PATA SSD



Specifications

Interface	True IDE
Connection Type	ZIF, 35-Pin, 0.3mm pitch
Form Factor	1"
Flash Type	MLC
Capacity	2GB/4GB/8GB/16GB/64GB
Max. Transfer Performance (Varies by density)	Read: 83MB/s, Write: 51MB/s
Operating Voltage	3.3V±5%
Power Consumption	0.9W (Active)
Operating Temp.	0°C~70°C
Storage Temp.	-40°C~85°C
Humidity	0%~95%
Shock	1500G, 0.5ms, 3 axis
Vibration (Hz/G)	20G (Peak-to-Peak), 20Hz to 2000Hz (Frequency)
Dimensions	40mm x 30mm x 3.8mm
MTBF	1,000,000hrs

• Supported
○ By Request
- Not available

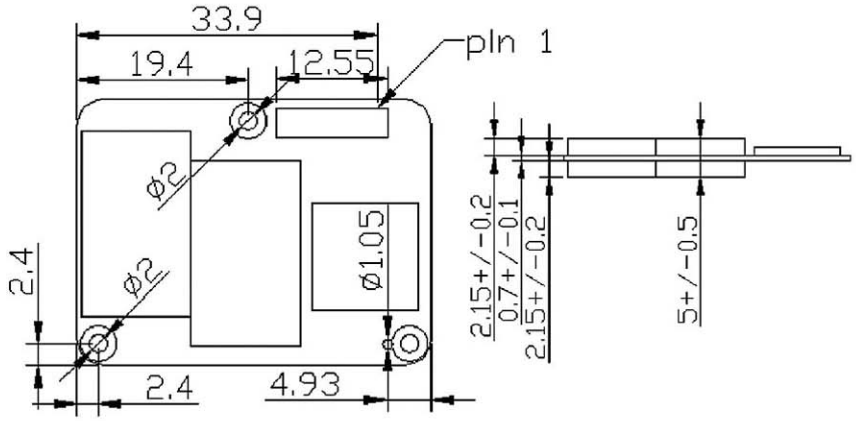
SSD10-M	-	•	•	-	-

Features

- Supports up to Ultra DMA Mode 5, Multi-word DMA Mode 2 , and PIO Mode 4
- Built-in ECC and Wear-Leveling ensure reliable data transfer
- Fully compatible with 1.0-inch hard drive form factor and interface (35-Pin FPC ZIF connector)
- Supports S.M.A.R.T Lifetime Monitor and ATA security commands
- SSD Scope Pro software monitoring tools

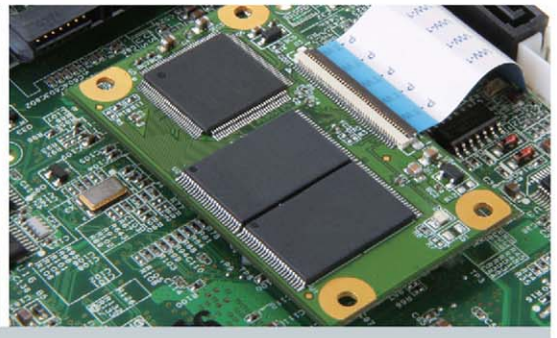
Ordering Information

TS2GSSD10-M	2GB
TS4GSSD10-M	4GB
TS8GSSD10-M	8GB
TS16GSSD10-M	16GB
TS64GSSD10-M	64GB



*Tighten mounting screws with no more than 1.0kg-cm (0.07 ft-1bs) of torque.

Half Slim PATA SSD



Specifications

Interface	True IDE
Connection Type	ZIF, 40-pin, 0.5mm pitch
Form Factor	1.8" Half Slim
Flash Type	MLC
Capacity	8GB/16GB/32GB
Max. Transfer Performance (Varies by density)	Read: 49MB/s, Write: 21MB/s
Operating Voltage	3.3V±5% or 5V±10%
Power Consumption	0.67W
Operating Temp.	0°C~70°C
Storage Temp.	-40°C~85°C
Humidity	0%~95%
Shock	1500G, 0.5ms, 3 axis
Vibration (Hz/G)	20G (Peak-to-Peak), 20Hz to 2000Hz (Frequency)
Dimensions	54mm x 32mm x 3.4mm
MTBF	1,000,000hrs

• Supported
○ By Request
– Not available

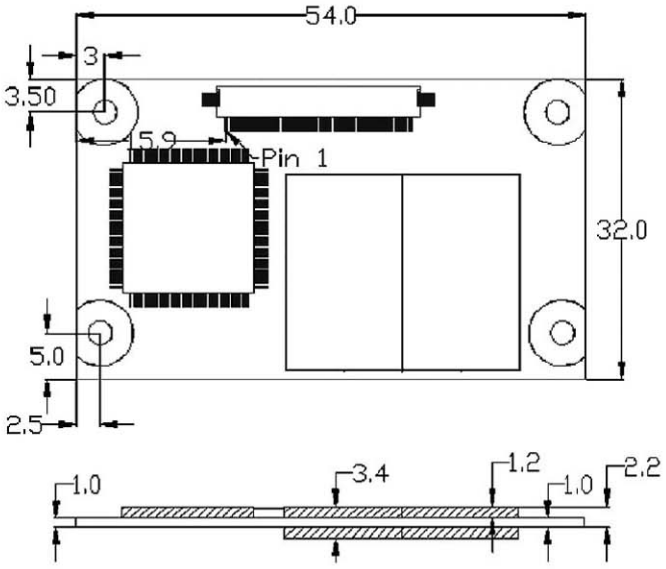
PSSD-M	–	–	•	–	–

Features

- Advanced Global Wear-Leveling and Block Management for excellent reliability
- Fully compatible with Parallel-ATA interface (40-Pin FPC ZIF connector, 0.5mm pitch)
- Supports up to PIO Mode 4 and Ultra DMA Mode 5
- Supports S.M.A.R.T Lifetime Monitor
- Low power consumption

Ordering Information

TS8GPSSD-M	8GB
TS16GPSSD-M	16GB
TS32GPSSD-M	32GB



*Tighten mounting screws with no more than 1.0kg-cm (0.07 ft-1bs) of torque.

MO-300A mPATA SSD

Specifications

Interface	True IDE
Connection Type	mini PCIe, 52-pin
Form Factor	MO-300A
Flash Type	MLC
Capacity	64GB
Max. Transfer Performance (Varies by density)	Read: 82MB/s, Write: 44MB/s
Operating Voltage	3.3V±5%
Power Consumption	0.6W
Operating Temp.	0°C~70°C
Storage Temp.	-40°C~85°C
Humidity	0%~95%
Shock	1500G, 0.5ms, 3 axis
Vibration (Hz/G)	20G (Peak-to-Peak), 20Hz to 2000Hz (Frequency)
Dimensions	50.8mm x 29.85mm x 4.85mm
MTBF	1,000,000hrs

• Supported
○ By Request
- Not available

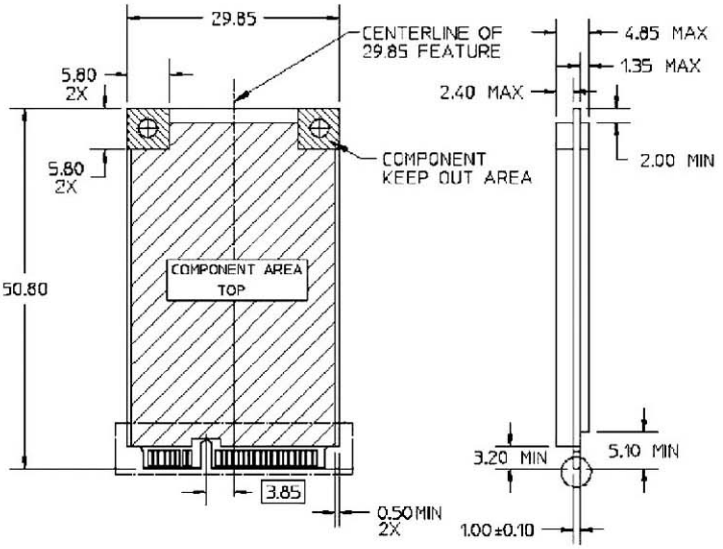
MPA300	–	○	•	–	–

Features

- Built-in ECC and wear-leveling ensure reliable data transfer
- Built-in 15-bit/512Byte ECC ensures reliable data transfer
- Supports up to Ultra DMA Mode 5
- Compatible with mini PCIe connectors
- Supports Advanced Power Shield (optional)
- Supports S.M.A.R.T Lifetime Monitor and ATA security commands
- Low power consumption
- SSD Scope Pro software monitoring tools

Ordering Information

TS64GMPA300	64GB



*Tighten mounting screws with no more than 1.0kg-cm (0.07 ft-1bs) of torque.

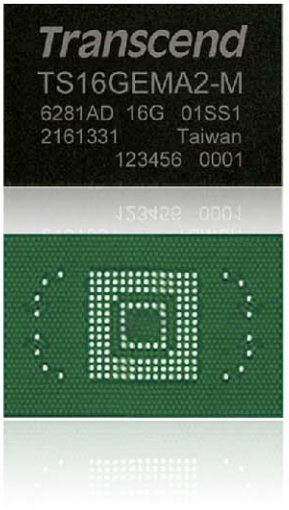
eMMC

Specifications

Interface	eMMC, JEDEC/eMMC 4.41
Connection Type	none
Form Factor	eMMC (169-ball FBGA)
Flash Type	MLC
Capacity	4GB/8GB/16GB
Max. Transfer Performance (Varies by density)	Read: 24MB/s, Write: 8MB/s
Operating Voltage	VCC: 2.7V~3.6V VCCQ (dual voltage): 1.7V~1.95V or 2.7V~ 3.6V
Power Consumption	0.66W (active), 1.2mW (idle)
Operating Temp.	-25°C~85°C
Storage Temp.	-40°C~85°C
Humidity	0%~95%
Shock	1,500G
Vibration (Hz/G)	3.0G (Peak-to-Peak), 5Hz to 800Hz (Frequency)
Dimensions	12mm x 16mm x 1.2mm
MTBF	1,000,000hrs

• Supported
○ By Request
– Not available

EMA2-M	–	–	•	○	•

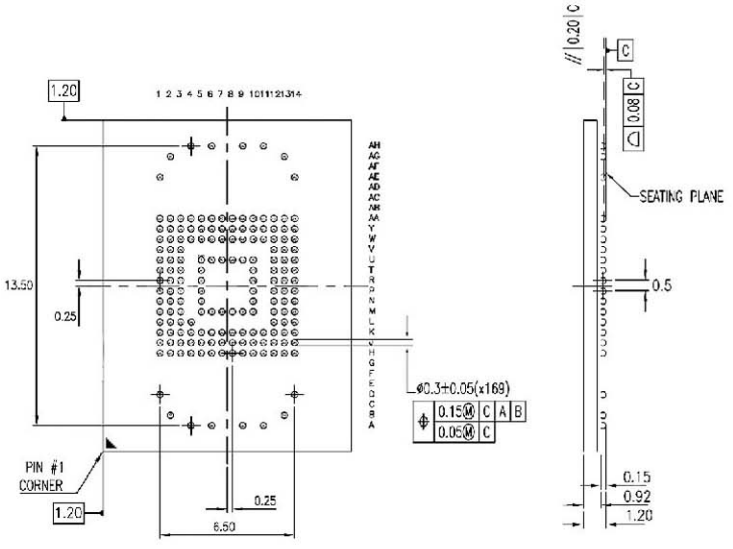


Features

- JEDEC/MMC standard version 4.41-compliant
  (JEDEC Standard No. 84-A441) – SPI mode not supported
- MMC mode operation
- Combined booting and storage
- Flexibile partition management
- Security functions
- 40bit/1KB ECC functionality
- Supports 1bit, 4bit, and 8bit data bus widths

Ordering Information

TS4GEMA2-M	4GB
TS8GEMA2-M	8GB
TS16GEMA2-M	16GB



Industrial SD / SDHC / microSDHC Card

SLC MLC

Specifications

Interface	SD 3.0 (backwards compatible with SD 2.0)
Connection Type	SD/microSD connector
Form Factor	SD/SDHC/microSDHC flash card
Flash Type	MLC: USDC10I/SDHC10I/SDHC10M/USDC10M SLC: SD80/SD80I/SDHC80I/SD150/SDHC150
Capacity	SDHC10I: 4GB/8GB/16GB/32GB USDC10I: 4GB/8GB/16GB SDHC10M/USDC10M: 8GB/16GB/32GB SD80: 128MB/256MB/512MB/1GB SD80I/SDHC80I: 1GB/2GB/4GB/8GB/16GB SD150/SDHC150: 2GB/4GB/8GB/16GB
Max. Transfer Performance (Varies by density)	SDHC10I/USDC10I: Read: 19MB/s, Write: 16MB/s SDHC10M: Read: 19MB/s, Write: 16MB/s USDC10M: Read: 20MB/s, Write: 16MB/s SD80: Read: 13MB/s, Write: 8MB/s SD80I/SDHC80I: Read: 18MB/s, Write: 16MB/s SD150/SDHC150: Read: 20MB/s, Write: 17MB/s
Operating Voltage	2.7V~3.6V
Power Consumption	0.72W
Operating Temp.	SD80I/SDHC80I/SDHC10I/USDC10I: -40°C~85°C SD150/SDHC150/SD80/SDHC10M/USDC10M: -25°C~85°C
Storage Temp.	-40°C~85°C
Humidity	0%~95%
Shock	600G
Vibration (Hz/G)	20G (Peak-to-Peak), 20Hz to 2000Hz (Frequency)
Dimensions	24mmx32mmx2.1mm (USDC10I/USDC10M:11mmx15mmx1mm)
MTBF	1,000,000 hrs

• Supported
○ By Request
– Not available

SD80	–	–	•	○	–
SD80I	•	–	•	○	–
SDHC10I	•	–	•	○	–
SDHC80I	•	–	•	○	–
SDHC10M	–	–	•	○	–
USDC10I	•	–	•	○	•
USDC10M	–	–	•	○	–
SD150	–	–	•	○	–
SDHC150	–	–	•	○	–

Features

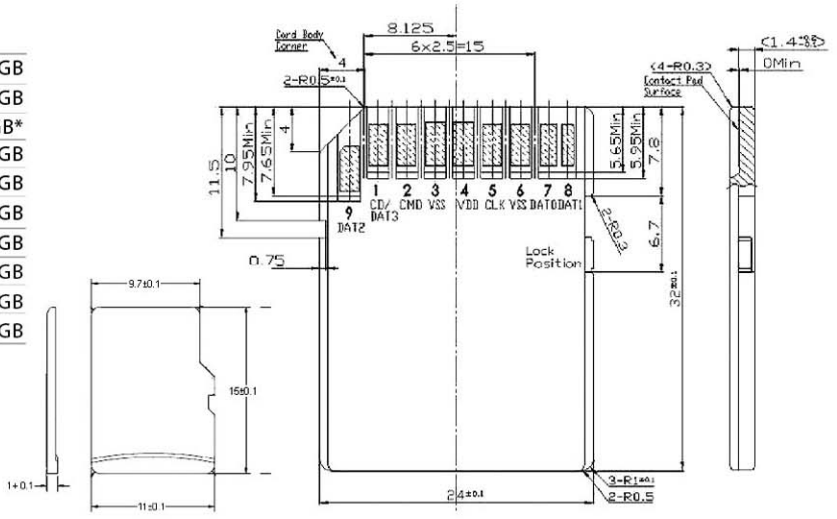
- Suitable for wide-temperature applications (industrial versions available upon request)
- Built-in ECC and Wear-Leveling to ensure reliable data transfer
- Insertion / removal durability: 10,000 cycles
- Mechanical write-protection switch (SD/SDHC)
- SD Card Forward compatibility to MultiMediaCard Version 2.11
- Supports Copy Protection for Recorded Media (CPRM) for music and other commercial media
- SDHC Class 10 write performance (SDHC80I/SDHC10I/USDC10I/USDC10M/SDHC150)

Ordering Information

SD80 (SLC)	TS128MSD80	128MB
	TS256MSD80	256MB
	TS512MSD80	512MB
	TS1GSD80	1GB
SD80I (SLC)	TS1GSD80I	1GB
	TS2GSD80I	2GB
SDHC80I (SLC)	TS4GSDHC80I	4GB
	TS8GSDHC80I	8GB
	TS16GSDHC80I	16GB
SDHC10I (MLC)	TS4GSDHC10I	4GB
	TS8GSDHC10I	8GB
	TS16GSDHC10I	16GB
	TS32GSDHC10I	32GB
SDHC10M (MLC)	TS8GSDHC10M	8GB
	TS16GSDHC10M	16GB
	TS32GSDHC10M	32GB

USDC10I (MLC)	TS4GUSDC10I	4GB
	TS8GUSDC10I	8GB
	TS16GUSDC10I	16GB*
USDC10M (MLC)	TS8GSDHC10M	8GB
	TS16GSDHC10M	16GB
	TS32GSDHC10M	32GB
SD150 (SLC)	TS2GSD150	2GB
SDHC150 (SLC)	TS4GSDHC150	4GB
	TS8GSDHC150	8GB
	TS16GSDHC150	16GB

*Special request item



Industrial CF Card

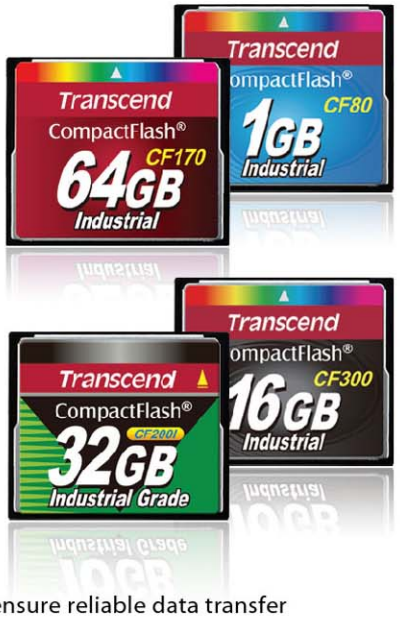
SLC MLC

Specifications

Interface	PCMCIA / True IDE
Connection Type	CompactFlash, 50-Pin
Form Factor	CompactFlash Card
Flash Type	SLC (CF170: MLC)
Capacity	32MB/64MB/128MB/256MB/512MB/ 1GB/2GB/4GB/8GB/16GB/32GB
Max. Transfer Performance (Varies by density)	CF80: Read: 12 MB/s, Write: 11 MB/s CF170: Read: 90 MB/s, Write: 60 MB/s CF300: Read: 45 MB/s, Write: 45 MB/s CF200I: Read: 56 MB/s, Write: 37 MB/s
Operating Voltage	3.3V±5% or 5V±10%
Power Consumption	0.76W
Operating Temp.	-25°C~85°C (CF200I: -40°C~85°C)
Storage Temp.	-40°C~85°C (CF200I: -55°C~100°C)
Humidity	0%~95%
Shock	1500G, 0.5ms, 3 axis
Vibration (Hz/G)	20G (Peak-to-Peak), 20Hz to 2000Hz (Frequency)
Dimensions	42.8mm x 36.4mm x 3.3mm
MTBF	1,000,000hrs (CF200I: 4,000,000hrs)

● Supported
○ By Request
- Not available

CF80	–	–	●	–	–
CF170	–	●	●	–	–
CF300	–	●	●	–	–
CF200I	●	●	●	–	–



Features

CF170 / CF300 / CF200I

- Suitable for wide-temperature applications (industrial versions available upon request)
- Built-in ECC and Wear-Leveling ensure reliable data transfer
- Compliant with CompactFlash specification V4.1 (CF170: V6.0)
- Supports PIO modes 0–6
- Supports Multi-Word DMA modes 0–4
- Supports Ultra DMA modes 0–5
- Built-in Advanced Power Shield protects data in case of power loss (CF200I / CF170)
- Supports S.M.A.R.T Lifetime Monitor
- SSD Scope Pro software monitoring tools

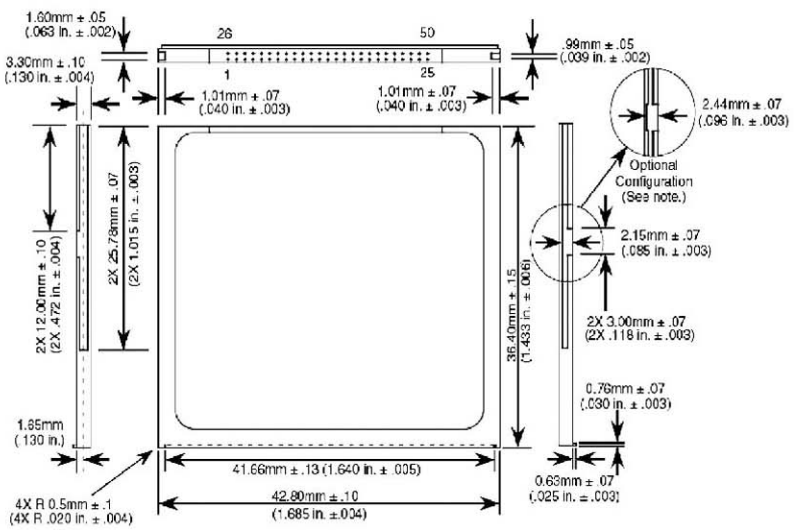
CF80

- Built-in ECC and wear-leveling ensure reliable data transfer
- Compliant with CompactFlash specification V3.0
- Supports PIO modes 0–6
- Supports Multi-Word DMA modes 0–4
- Supports S.M.A.R.T Lifetime Monitor

Ordering Information

CF80	TS32MCF80	32MB
	TS64MCF80	64MB
	TS128MCF80	128MB
	TS256MCF80	256MB
	TS512MCF80	512MB
	TS1GCF80	1GB
CF170 (MLC)	TS2GCF170	2GB
	TS4GCF170	4GB
	TS8GCF170	8GB
	TS16GCF170	16GB
	TS32GCF170	32GB
	TS64GCF170	64GB
CF300	TS2GCF300	2GB
	TS4GCF300	4GB
	TS8GCF300	8GB
	TS16GCF300	16GB

CF200I	TS128MCF200I	128MB
	TS256MCF200I	256MB
	TS512MCF200I	512MB
	TS1GCF200I	1GB
	TS2GCF200I	2GB
	TS4GCF200I	4GB
	TS8GCF200I	8GB
	TS16GCF200I	16GB
	TS32GCF200I	32GB



CFast (SATA CF) Card

SLC MLC

Specifications

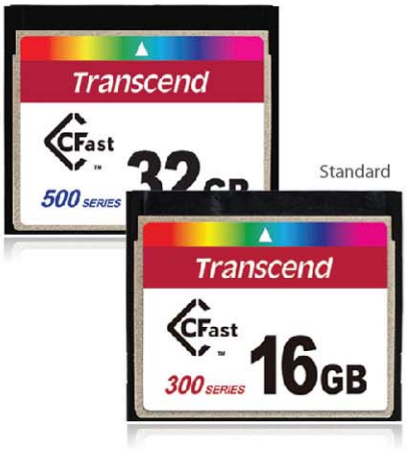
Interface	SATA II 3Gb/s (backwards compatible with SATA I 1.5Gb/s)
Connection Type	CFast 24-pin
Form Factor	CFast
Flash Type	MLC, SLC
Capacity	4GB/8GB/16GB
Max. Transfer Performance (Varies by density)	Read: 115MB/s, Write: 88MB/s
Operating Voltage	3.3V±5%
Power Consumption	1.22W
Operating Temp.	0°C~70°C (Industrial: -40°C~85°C)
Storage Temp.	-40°C~85°C (Industrial: -55°C~100°C)
Humidity	0%~95%
Shock	1,500G, 0.5ms, 3 axis
Vibration (Hz/G)	3G (Peak-to-Peak), 5Hz to 800Hz (Frequency)
Dimensions	42.8mm x 36.4mm x 3.3mm
MTBF	1,000,000hrs

● Supported
○ By Request
- Not available

CFX300	–	○	●	–	–
CFX500	–	○	●	–	–
CFX500I	●	○	●	–	–

Industrial

Standard



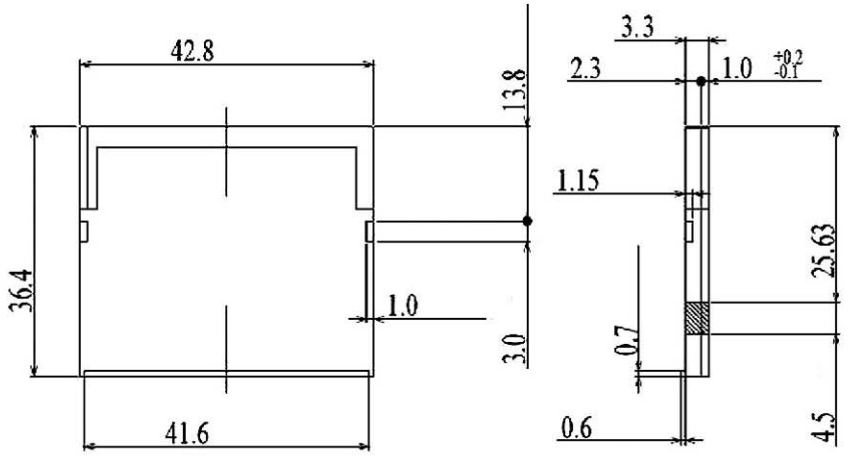
Features

- Suitable for wide-temperature applications (industrial versions available upon request)
- Built-in 1-bit/512Byte ECC & global wear-leveling algorithm
- SATA 3Gb/s interface bandwidth
- CFast Specification Version 1.0 Compliant
- Supports S.M.A.R.T Lifetime Monitor
- SSD Scope Pro software monitoring

Ordering Information

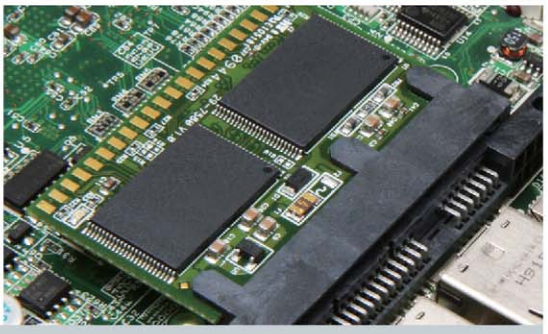
CFX300	*MLC*	TS4GCFX300*	4GB
		TS8GCFX300*	8GB
		TS16GCFX300	16GB
		TS32GCFX300*	32GB
CFX500	*SLC*	TS4GCFX500	4GB
		TS4GCFX500I*	4GB
		TS8GCFX500	8GB
		TS16GCFX500	16GB

*Other Industrial temp. capacities available by request



SATA Flash Modules

SLC MLC



Specifications

Interface	SATA I 1.5Gb/s (SDOM7H/22V/22H), SATA II 3Gb/s (STM500-7H)
Connection Type	SATA, 7-pin/22-Pin
Form Factor	SATA Flash Module (V)ertical/(H)orizontal
Flash Type	MLC, SLC
Capacity	SATA I: SLC: 1GB/2GB/4GB MLC: 8GB/16GB*/32GB* SATA II: SLC: 512MB/1GB/2GB/4GB/6GB*/8GB/ 16GB*/32GB*/64GB*
Max. Transfer Performance (Varies by density)	SATA I: Read: 56MB/s, Write: 36MB/s SATA II: Read: 130MB/s, Write: 123MB/s
Operating Voltage	SATA I: 3.3V±5% or 5V±10%, SATA II: 5V±5%
Power Consumption	SATA I: 1.5W, SATA II: 1W
Operating Temp.	0°C~70°C (Industrial SLC: -40°C~85°C)
Storage Temp.	-40°C~85°C
Humidity	0%~95%
Shock	1500G, 0.5ms, 3 axis
Vibration (Hz/G)	20G (Peak-to-Peak), 20Hz to 2000Hz (Frequency)
Dimensions	40.0mm x 30.0mm x 10.85mm (STM500-7H) 40.0mm x 30.0mm x 24.3mm (7H) 45.8mm x 7.08mm x 33.0mm (22V) 44.0mm x 33.57mm x 10.98mm (22H)
MTBF	1,000,000hrs

• Supported
○ By Request
- Not available

SDOM7H	–	–	•	–	–
SDOM22V	–	–	•	–	–
SDOM22H	–	–	•	–	–
STM500-7H	○	•	•	–	–

Features

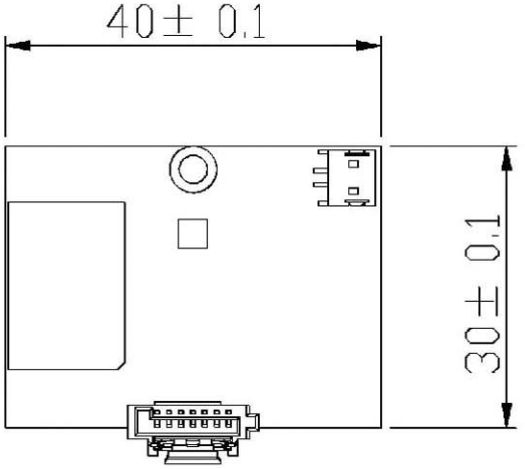
- Suitable for wide-temperature applications (industrial versions available upon request)
- Built-in ECC and Wear-Leveling ensure reliable data transfer
- On-chip hardware 13/24 bit BCH-ECC engines correct up to 24 bit errors per 1,024 bytes of data
- Fully compatible with devices and operating systems that support the SATA II 3Gb/s interface (STM500)
- Supports up to Ultra DMA Mode 5
- Hardware write-protect switch (SDOM7H, STM500-7H)
- Supports hardware purge function (STM500-7H)
- Supports AHCI mode, TRIM command and NCQ (STM500-7H)

Ordering Information

SDOM7H	*MLC*	TS8GSDOM7H-M	8GB
		TS16GSDOM7H-M*	16GB
		TS32GSDOM7H-M*	32GB
STM500-7H	*SLC*	TS512MSTM500-7H	512MB
		TS1GSTM500-7H	1GB
		TS2GSTM500-7H	2GB
		TS4GSTM500-7H	4GB
		TS6GSTM500-7H*	6GB
		TS8GSTM500-7H	8GB
		TS16GSTM500-7H*	16GB
		TS32GSTM500-7H*	32GB
		TS64GSTM500-7H*	64GB

SDOM22V	*SLC*	TS1GSDOM22V	1GB
		TS2GSDOM22V	2GB
		TS4GSDOM22V	4GB
SDOM22H	*SLC*	TS1GSDOM22H*	1GB
		TS2GSDOM22H*	2GB
		TS4GSDOM22H*	4GB

* Special request item



(STM500-7H)

*Tighten mounting screws with no more than 1.0kg-cm (0.07 ft-1bs) of torque.

PATA Flash Modules

Specifications

Interface	True IDE
Connection Type	44-pin, pitch=2.00mm; 40-pin, pitch=2.54mm
Form Factor	IDE Flash Module (V)ertical/(H)orizontal
Flash Type	SLC
Capacity	32MB/64MB/128MB/256MB/512MB/ 1GB/2GB/4GB/8GB/16GB
Max. Transfer Performance (Varies by density)	Read: 57MB/s, Write: 38MB/s
Operating Voltage	3.3V±5% or 5V±10%
Power Consumption	0.9W
Operating Temp.	0°C~70°C (Industrial: -40°C~85°C)*
Storage Temp.	-40°C~85°C
Humidity	0%~95%
Shock	1500G, 0.5ms, 3 axis
Vibration (Hz/G)	20G (Peak-to-Peak), 20Hz to 2000Hz (Frequency)
Dimensions	61.0mm x 27.1mm x 7.1mm(PTM510-40V-housing) 52.0mm x 29.5mm x 7.2mm(PTM510-44V-housing) 45.0mm x 28.0mm x 6.0mm(DOM44H-no housing)
MTBF	1,000,000hrs

● Supported
○ By Request
– Not available

DOM44H	○	–	●	–	–
DOM40V	○	–	●	–	–
PTM510-40V	○	●	●	–	–
DOM44V	○	–	●	–	–
PTM510-44V	○	●	●	–	–

Foolproof directions
can be customized

Features

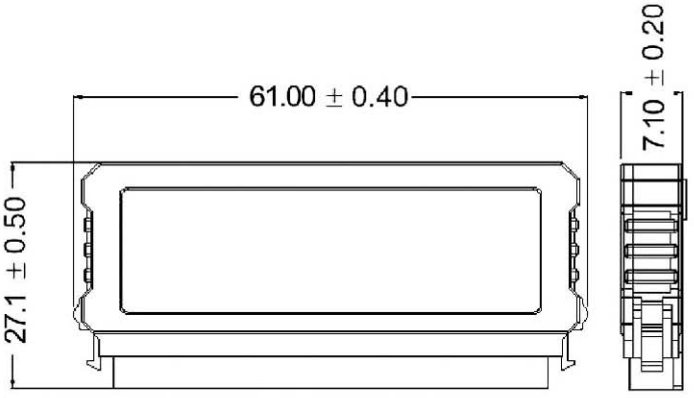
- Suitable for wide-temperature applications (industrial versions available upon request)
- Built-in ECC function assures high data transfer reliability
- Enhanced Wear-Leveling algorithm extends product life
- Fully compatible with devices and operating systems that support the IDE/PATA interface standard
- Supports S.M.A.R.T Lifetime Monitor
- PTM510: Supports up to PIO Mode 6 and Ultra DMA Mode 5
- PTM510: Enhanced Power regulator with thermal shutdown and current limit protection
- PTM510: Built-in Advanced Power Shield active monitoring circuit prevents data loss in the event of a sudden power outage

Ordering Information

DOM44H	TS32MDOM44H	32MB
	TS64MDOM44H	64MB
	TS128MDOM44H-S	128MB
	TS256MDOM44H-S	256MB
	TS512MDOM44H-S	512MB
	TS1GDOM44H-S	1GB
	TS2GDOM44H-S	2GB
	TS4GDOM44H-S	4GB
DOM40V	TS32MDOM40V	32MB
	TS64MDOM40V	64MB
	TS128MDOM40V-S	128MB
	TS256MDOM40V-S	256MB
	TS512MDOM40V-S	512MB
	TS1GDOM40V-S	1GB

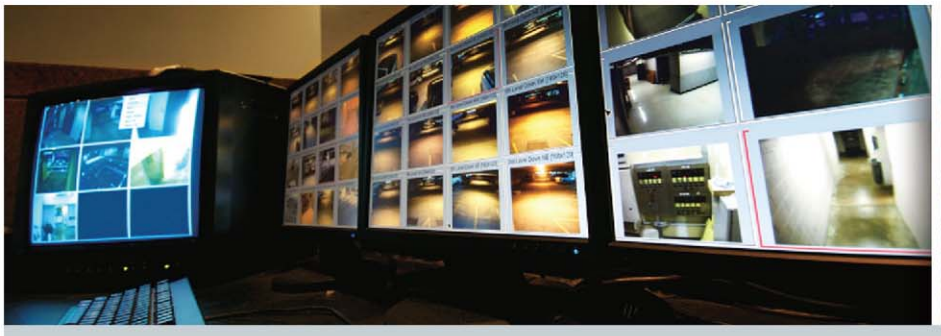
PTM510 40V	TS2GPTM510-40V*	2GB
	TS4GPTM510-40V*	4GB
	TS8GPTM510-40V*	8GB
	TS16GPTM510-40V*	16GB
DOM44V	TS32MDOM44V	32MB
	TS64MDOM44V	64MB
	TS128MDOM44V-S	128MB
	TS256MDOM44V-S	256MB
	TS512MDOM44V-S	512MB
	TS1GDOM44V-S	1GB
PTM510 44V	TS2GPTM510-44V*	2GB
	TS4GPTM510-44V*	4GB
	TS8GPTM510-44V*	8GB

*Industrial versions available upon request



(PTM510-40V/DOM40V)

USB Flash Modules



Specifications

Interface	USB 2.0 (backwards compatible with USB 1.0)
Connection Type	(H)10-pin USB port: pitch=2.54mm for Normal Type; pitch=2.0mm for Low profile Type (V)10-pin USB port: pitch = 2.54mm
Form Factor	Vertical (case) or Horizontal (no case)
Flash Type	SLC
Capacity	512MB/1GB/2GB/4GB/8GB/16GB*
Max. Transfer Performance (Varies by density)	Read: 20MB/s, Write: 18MB/s
Operating Voltage	5V±10%
Power Consumption	0.6W
Operating Temp.	0°C~70°C (Industrial: -40°C~85°C)
Storage Temp.	-40°C~85°C
Humidity	0%~95%
Shock	1500G, 0.5ms, 3 axis
Vibration (Hz/G)	3G (Peak-to-Peak), 5Hz to 800Hz (Frequency)
Dimensions	(UFM-H) 37.80mm x 26.65mm x 9.7mm (UFM-V) 31.80mm x 7.00mm x 26.00mm
MTBF	1,000,000hrs

• Supported
○ By Request
– Not available

UFM-H	–	–	•	–	–
UFM-HI	•	–	•	–	–
UFM-V	○	–	•	–	–

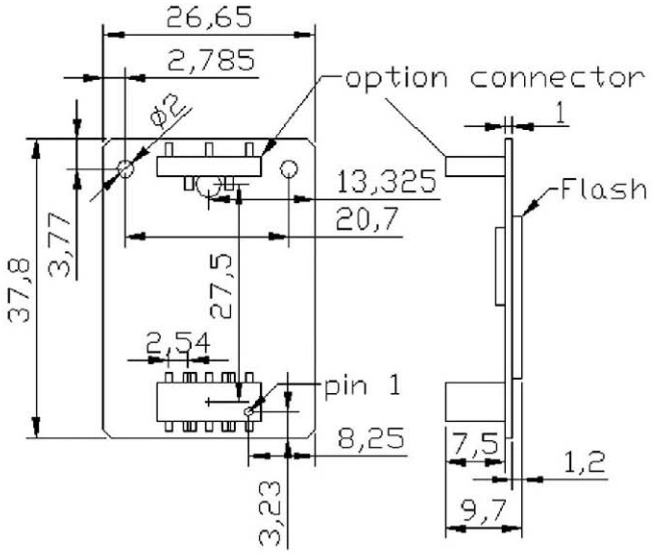
Features

- Suitable for wide-temperature applications (industrial versions available upon request)
- Built-in ECC and Wear-Leveling ensure reliable data transfer
- Hi-Speed USB 2.0 compliant
- Backwards compatible with USB 1.1
- True Plug and Play functionality
- Fully compliant with open industry standards
- Mechanical write-protection switch
- LED transfer activity indicator (for H type)

Ordering Information

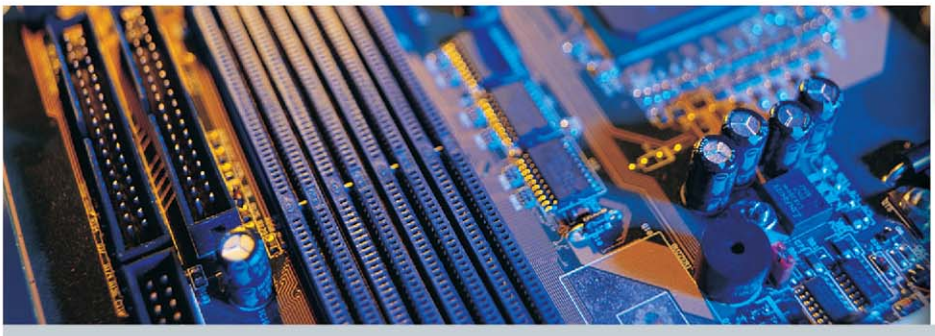
UFM-H	TS512MUFM-H	512MB
	TS512MUFM-HI**	512MB
	TS1GUFM-H	1GB
	TS2GUFM-H	2GB
	TS4GUFM-H	4GB
	TS8GUFM-H	8GB
UFM-V	TS512MUFM-V	512MB
	TS1GUFM-V	1GB
	TS2GUFM-V	2GB
	TS4GUFM-V	4GB
	TS8GUFM-V*	8GB

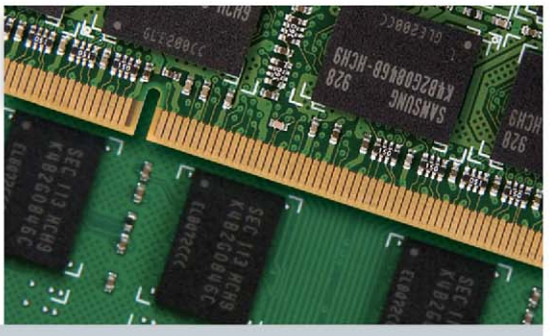
*Special request item
**Other Industrial temp. capacities available by request



(UFM-H)
*Tighten mounting screws with no more than 1.0kg-cm (0.07 ft-1bs) of torque.

Industrial Memory Modules





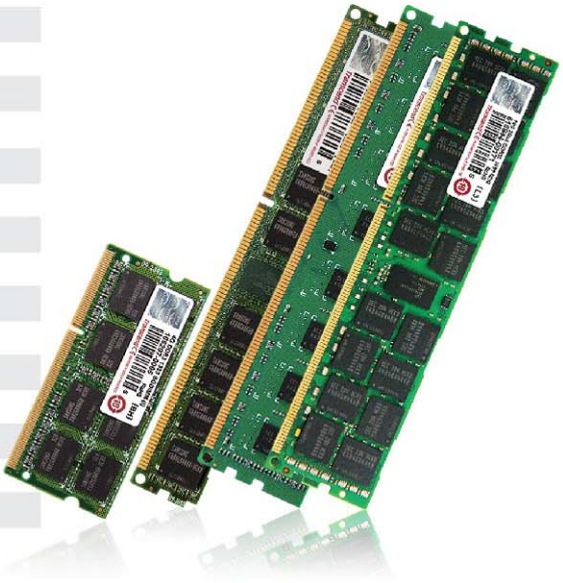
Specifications

Module Type	DDR SO-DIMM	DDR2 SO-DIMM
Frequency	400MHz	533MHz/667MHz/800MHz
Function	Non-ECC Unbuffered Memory	Non-ECC Unbuffered Memory
Pin Count	200pin	200pin
Capacity	512MB/1GB	1GB/2GB
DRAM Configuration	64Mx8	128Mx8
Timing	3-3-3	4-4-4 / 5-5-5 / 6-6-6
Voltage	2.6V	1.8V
Rank Number	1 Rank / 2 Ranks	1Rank / 2 Ranks
PCB Height	1.25 Inches	1.18 Inches
Operating Temp.	-40°C~85°C	-40°C~85°C

Module Type	DDR3 LONG DIMM	DDR3 SO-DIMM
Frequency	1333MHz / 1600MHz	1333MHz / 1600MHz
Function	Unbuffered / Registered Memory	Unbuffered / ECC Memory
Pin Count	240pin	204pin
Capacity	1GB/2GB/4GB/16GB	1GB/2GB/4GB/8GB
DRAM Configuration	128Mx8/256Mx8/1024Mx4	128Mx8/256Mx8/512Mx8
Timing	9-9-9 / 11-11-11	9-9-9 / 11-11-11
Voltage	1.35 / 1.5V	1.35 / 1.5V
Rank Number	1Rank / 2Ranks	1Rank / 2Ranks
PCB Height	1.18 Inches	1.18 Inches
Operating Temp.	-40°C~85°C	-40°C~85°C

- Supported
- By Request
- Not available

DDR	•	–	•	–	○
DDR2	•	–	•	–	○
DDR3	•	–	•	–	○



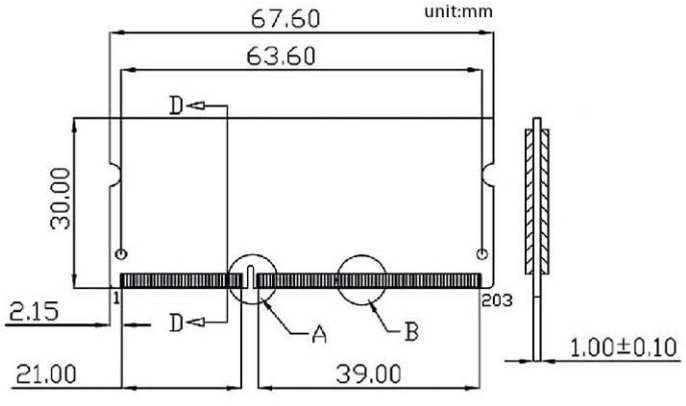
Features

- Suitable for wide-temperature applications (industrial versions available upon request)
- Extra-thick 30u" gold-plated contact pins
- Industrial grade capacitors ensure voltage stability
- Stable operation in extreme temperatures (-40°C to 85°C)
- JEDEC compliant PCB design ensures multi-platform compatibility
- 100% tested for performance and reliability
- Ideal for non-stop, 24/7 applications

Ordering Information

DDR	TS64MSD64V4J-I	512MB
	TS128MSD64V4A-I	1GB
DDR2	TS128MSQ64V5U-I	1GB
	TS128MSQ64V6U-I	1GB
	TS128MSQ64V8U-I	1GB
	TS256MSQ64V5U-I	2GB
	TS256MSQ64V6U-I	2GB
	TS256MSQ64V8U-I	2GB

DDR3	TS128MLK64V3U-I	1GB
	TS128MSK64V3U-I	1GB
	TS256MLK64V3N-I	2GB
	TS256MSK64V3N-I	2GB
	TS256MSK72V3N-I	2GB
	TS512MLK64V3N-I	4GB
	TS512MSK64V3N-I	4GB
	TS512MSK72V3N-I	4GB
	TS1GSK72V3H-I	8GB
	TS1GSK64V6H-I	8GB
	TS2GKR72V6Z-I	16GB



(DDR3 SO-DIMM)

USB Flash Drives

Specifications

Interface	USB 2.0
Connection Type	USB 2.0 A-Type Plug
Flash Type	SLC
Capacity	512MB/1GB/2GB/4GB/8GB
Max. Transfer Performance (Varies by density)	Read: 29MB/s, Write: 21MB/s
Operating Voltage	5V ± 10%
Power Consumption	1.1W (Max. Active), 0.4W (idle)
Operating Temp.	0°C~70°C
Storage Temp.	-20°C~75°C
Humidity	0%~95%
Shock	1,500G, 0.5ms, 3 axis
Vibration (Hz/G)	3.0G (Peak-to-Peak), 5-800Hz (Frequency)
Dimensions	60.9 x 19.3 x 8.5 mm
MTBF	1,000,000 hours

• Supported
o By Request
- Not available

JF170	–	–	•	–	–

Features

- Elegant all-white design
- Gloss finish with contoured edges
- Made with high durability SLC flash memory
- Up to 29MB/s read & 21MB/s write
- Efficient Global Wear-Leveling and Block Management ensures excellent long-term reliability
- Ideal for frequent-use applications (10,000 erase cycles)

Ordering Information

TS512MJF170	512MB
TS1GJF170	1GB
TS2GJF170	2GB
TS4GJF170	4GB
TS8GJF170	8GB

Advanced Functions

Copy Protected SD/microSD

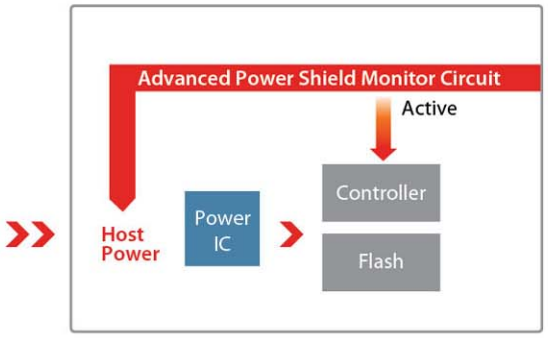
- Excellent multi-platform compatibility
- Adds promotional value to any marketing campaign
- Host device settings do not need to be adjusted
- Available capacities:
  SD 2GB-64GB; microSD 2GB-32GB (by request)
- Limited Lifetime Warranty

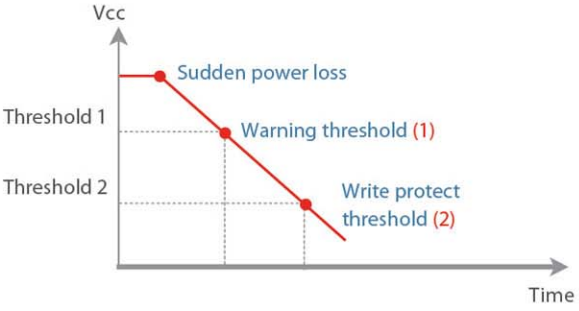
Customized Solutions

1. Protect pre-loaded multimedia files
2. Write-protect entire or partial capacity
3. Dual-purpose protected / unprotected areas
4. Custom card reader to control access
5. Vendor-specific card ID for host device authentication

What is Advanced Power Shield ?

Advanced Power Shield directly monitors the host power input to protect SSD data more effectively in case of unexpected power loss.





(1) Power Alarm

When input power drops below **threshold 1** a signal is sent to the SSD's controller to stop receiving new data. The SSD then finishes all write tasks that have been sent to flash and executes error handling to protect the data from damage.

(2) Flash-Freeze

If input power decreases to less than **threshold 2** the controller immediately goes into write-protect mode to eliminate any possibility of corruption.

Comparison Table

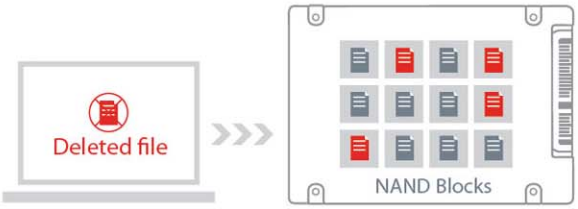
*-40°C~85°C ● standard ○ optional

Interface	PATA					CF		SD			USB
Model	2.5" PATA SSD	Half Slim PATA SSD	MO-300A SSD	1.0" PATA SSD	IDE Flash Modules	CF Card	I-Temp CF Card	SD Card	I-Temp SD/ SDHC Card	I-Temp microSDHC	USB Flash Modules
MLC Flash	●	●	●	●		●			●	●	
SLC Flash	●	○	○	○	●	●	●	●	●		●
TRIM & NCQ Support											
Advanced Power Shield	● (PSD330) ● (PSD520)	○		○	● (PTM510)	● (CF300) ● (CF170)	● (CF200I)				
S.M.A.R.T.	●	●	●	●	●	●	●				
Security Commands	●	●	●	●	●	○	●	●	●	●	
HW Purge	○										
Industrial Temperature*	○		○	○	○		●	○	●	●	○

What is TRIM ?

The TRIM command allows an operating system* to inform the SSD of the specific location of deleted data so that it can be wiped internally.

without **TRIM**

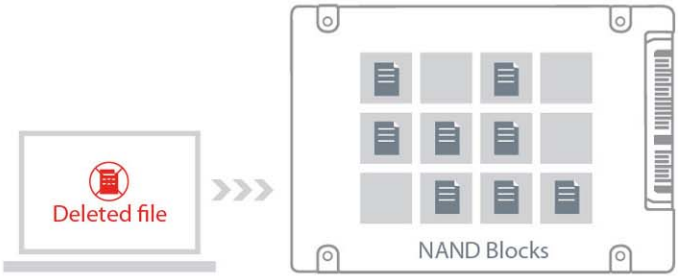


1 User deletes data

2 Data is marked for deletion but still remains on SSD

New data must **WAIT** for deleted data to be cleared before being written, **REDUCING** write performance

with **TRIM**



1 User deletes data

2 TRIM informs SSD to wipe deleted data to make free space

New data can be written **DIRECTLY** to the free space, maintaining **MAXIMUM** write speed

*TRIM command is currently available on Windows 7/8 & Linux Kernel 2.6.28 or later

Transcend SSD Scope Pro is an advanced diagnostic and maintenance tool to help keep your SSD running fast, clean, and error-free.

Drive Info
Displays standard drive information and quick overview of SSD health

Read/Write
Real-time graphical display of read/write operations between SSD and host

Erase Count
Monitors minimum, average, maximum, and total erase count

Block Info
View number of valid spare blocks, new bad blocks, and varied blocks

System Health
Displays SSD health history and perform quick or full diagnostic scan

Secure Erase
Guarantees the permanent removal of all deleted data on the drive

* SSD Scope Pro does not support all Transcend Industrial SSD models. Please visit the Transcend website for compatibility: http://www.transcend-info.com/support/DlCenter/.

Comparison Table

*-40°C~85°C ● standard ○ optional

Interface	SATA						eMMC
Model	2.5" SATA SSD	1.8" SATA SSD	Half Slim SATA SSD	mSATA SSD	CFast Card	SATA Flash Modules	eMMC
MLC Flash	●	●	●	●	○	●	●
SLC Flash	●		●	●	●	●	
TRIM & NCQ Support	●	●	●	●		● (STM500)	
Advanced Power Shield	●		●	● (MSA630)	○	● (STM500)	
S.M.A.R.T.	●	●	●	●	●	●	
Security Commands	●	●	●	●	●	●	●
HW Purge	●	○	●	○	○	○ (STM500)	
Industrial Temperature*	○	○	○	○	○	○	

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Custom orders welcome!

Please feel free to contact us with any special requests you might have. Our skilled team of expert engineers will gladly work with you to create a customized solution tailored to your specific application.

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