

SMART's Flash Products

Xceed iSATA Embedded SSD

P R E L I M I N A R Y

MEMORY • FLASH • STORAGE • DISPLAYS • EMBEDDED

Xceed iSATA Embedded SSD

SMART Modular Technologies' Xceed iSATA embedded SSD is an industrial-grade 3Gbps serial-ATA (SATA-II), embedded, single-level cell (SLC) solid state drive (SSD). This device specifically targets the needs of OEM customers in the server, storage cache /accelerators, networking, and data communications markets requiring reliable internal storage with an extremely small footprint. SMART's Xceed iSATA embedded SSD is also a natural fit for mobile and embedded computing, medical, automotive, and industrial applications. The small form factor, reduced weight, low power consumption, and fast data throughput are major advantages of the iSATA over traditional rotating hard disk drives (HDDs) and other embedded solid state products.

Designed with an industry-standard SATA interface and connector, iSATA easily integrates into a host system without the need of special BIOS modifications or additional device drivers. SMART's Xceed iSATA embedded SSD products offer leading edge read performance of up to 86MB/s (Maximum) and write performance up to 55MB/s (Maximum) and are available in various capacities, ranging from 2GB to 32GB. The iSATA provides support for lower density applications not readily available from HDD manufacturers.

SMART Xceed products address the need for enhanced reliability by incorporating on-board error detection and correction and static wear leveling algorithms to provide reliable operation over the product life cycle.

Product Family At-A-Glance

	Capacity (GB)	Performance Sequential
iSATA		
4-Channel	2, 4, 8, 16, 32	86MB/s Read (Maximum) 55MB/s Write (Maximum)

Features

- Whole Drive Static Wear Leveling
- Advanced Error Detection/Correction circuitry for superior data reliability
- Self-Monitoring Analysis and Reporting Technology (S.M.A.R.T.) support
- Supports 48bit LBA addressing with larger max transfer size
- Improved shock and vibration resistance over rotating media
- Indicator LED to indicate drive accesses
- External LED Activity Signaling (through the SATA connector) (Pin 11)
- Provides Health Status Monitor
- Zero seek time
- Noiseless operation



Xceed iSATA Embedded SSD (Preliminary)			
Performance			
Read (Maximum)	85MB/s		
Write (Maximum)	55MB/s		
Host Interface Rate (Maximum)	3Gb/s		
Access Time	600us		
Reliability			
Data Reliability	< 1in 10 ¹⁴ bits read		
Data Retention	10 years @ 25°C		
Endurance	> 260 years @ 200GBytes/day write cycles (16GByte drive) Unlimited reads		
Error Correction / Error Detection (BCH)	Up to 6 random bits for every 512-byte sector		
Power			
Vcc	5.0 ± 5%	5.25 ± 5%	V
Read	165	280	mA
Write	173	400	mA
Idle	117	175	mA
Environmental			
Shock – Non-Operating	1500g half-sine, 0.5msec, 1 shock along each axis, X,Y,Z in each direction		
Shock – Operating	50g half sine, 11msec, 3 shocks along each axis, X,Y,Z in each direction		
Vibration – Operating	16.4g rms 10-2000Hz, 3 axes		
Operating Temperature - Commercial	0°C to 70°C		
Operating Temperature - Industrial	-40°C to 85°C		
Storage Temperature	-55°C to 95°C		
Humidity	5% to 95%, non-condensing, relative humidity*		
Altitude	24,384m [80,000 ft]		
Physical			
Length	55.88mm		
Width	30.48mm		
Height	11.38mm (non-stacked) or 12.01mm (stacked)		

Part Number	Capacity	Unformatted Capacity
SG9STL4B2G4L01	2GB	2,007,040 KBytes
SG9STL4B4GDL01	4GB	4,014,080 KBytes
SG9STL4B8GCL01	8GB	8,028,160 KBytes
SG9STL4B16GBL01	16GB	16,056,320 KBytes
SG9STL4B32GBL01	32GB	32,112,640 KBytes

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