



XceedIOPS™ SATA SSD

SMART Storage Systems™ XceedIOPS™ SATA SSD combines high performance, superior reliability, and low power consumption into a single design, making it the ideal storage solution for the most demanding enterprise computing applications. Because of its high random write performance, the XceedIOPS SATA SSD can eliminate performance bottlenecks associated with traditional rotating-media disk drives. A single XceedIOPS SATA SSD can replace several hard disk drives, improving server utilization and the system’s total cost of ownership. For space-constrained blade server and high-density computing applications, the 1.8” form factor provides an optimal storage solution.

Reaching the bandwidth limits of the SATA 3Gb interface, XceedIOPS SATA SSD delivers 250 MB/s sequential read/write speeds and up to 30,000 random IOPS. It supports capacities of 50 – 400GB using enterprise-grade multi-level cell (MLC) NAND Flash.

The XceedIOPS SATA SSD offers industry-leading endurance by employing a highly efficient flash-management algorithm that includes bad-block management, data-integrity monitoring, temperature and performance throttling, and minimal write amplification. A combination of powerful error correction and detection, multi-level data path and code protection, and data fail and power fail recovery ensures high reliability. Comprehensive diagnostic tools are provided through SSD-specific S.M.A.R.T. attributes.

Enterprise-Grade Flash

Designed with the latest 34 nm E-MLC NAND Flash, the XceedIOPS SATA SSD provides the optimal solution for applications that require high endurance and capacity at the lowest cost. The combination of the controller’s minimal write amplification and E-MLC NAND Flash enables the XceedIOPS SATA SSD to handle the most demanding enterprise workloads, making it the solution of choice for even the most I/O write-intensive servers and enterprise storage systems.

Features

- Enterprise-Grade MLC NAND Flash
- Temperature Throttling
- Performance Throttling
- Powerful ECC Engine
- Data Path Protection
- Data Fail Recovery
- Power Fail Recovery
- Comprehensive S.M.A.R.T. Attributes

XceedIOPS SATA Product Family

	Capacity (GB)	Sustained Performance	Random Performance
MLC	50, 100, 200, 400	Up to 250 MB/s	Up to 30,000 IOPS ¹

¹ Based on 4KByte transfer size



XceedIOPS SATA Specifications

	1.8" Form Factor	2.5" Form Factor
Performance		
Burst	300 MB/s	
Sustained Read/Write	Up to 250 MB/s	
IOPS*	Up to 30,000 IOPS	
Access Time	<100 μ sec	
Interface	SATA 2.6	
Capacity		
E-MLC	50 GB to 400 GB	
Reliability		
Data Reliability	< 1 in 10^{18} bits read	
Endurance	5 Year Lifetime*	
Error Correction/Error Detection (RS)	24 9-bit symbols for every 512-byte sector	
Data Fail Recovery	Recover up to 1 NAND flash erase block of data	
Power Fail Recovery	Backup power circuitry	
Temperature Monitoring /Throttling	Performance throttling upon warning/critical temperature	
Power		
Vcc	3.3 \pm 5%	5V \pm 5%
Active (Typ)	2.3 W	2.3 W
Idle	0.6 W	0.6 W
Environmental		
Shock	50 g half sine, 11 msec, 3 shocks along each axis, X,Y,Z in each direction	
Vibration	16.4 g rms 10-2000 Hz, 3 axes	
Operating Temperature	0° C to 70° C	
Storage Temperature	-40° C to 70° C	
Humidity	5% to 95%, non-condensing, relative humidity	
Altitude	24,384 m [80,000 ft]	
Physical		
Length	78.5 mm	100.2 mm
Width	54.0 mm	70 mm
Height	5.00 mm	9.5 mm

* Performance throttling may be invoked to ensure 5 year lifetime

XceedIOPS SATA Ordering Information

Part Number	Capacity (GB)
XceedIOPS SATA 1.8"	
SG9XCS1F50GE01	50
SG9XCS1F100GE01	100
SG9XCS1F200GE01	200
SG9XCS1F400GE01	400
XceedIOPS SATA 2.5"	
SG9XCS2D50GM01	50
SG9XCS2D100GE01	100
SG9XCS2D200GE01	200
SG9XCS2D400GE01	400

Headquarters: T: (+1) 800.956.7627 • T: (+1) 510.623.1231 • F: (+1) 510.623.1434 • E: info@smartm.com

Customer Service: T: (+1) 978.303.8500 • F: (+1) 978.303.8757 • E: customers@smartm.com

Latin America: T: (+55) 11 4417.7200 • F: (+55) 11 4417.7219 • E: sac@smartm.com

Europe: T: (+33) 1 43 54 58 80 • F: (+33) 1 43 26 64 81 • E: euro.sales@smartm.com

Asia/Pacific: T: (+65) 6232.2858 • F: (+65) 6232.2300 • E: infoasia@smartm.com



www.smartstoragesystems.com