

SMART's Storage Solutions

XceedIOPS2 SATA SSD

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SMART Modular Technologies' XceedIOPS2 SATA 1.8" and 2.5" SSDs are optimized to meet the advanced performance and superior reliability demands of enterprise computing applications. Maximizing the bandwidth limits of the SATA 6Gbit interface, the XceedIOPS2 SATA SSD delivers up to 520/500MB/s sequential read/write speeds and up to 60,000/40,000 random input/output (I/O) operations per second (IOPS).

Reliability

The solution of choice for even the most I/O write-intensive servers and enterprise storage systems, SMART's XceedIOPS2 SATA SSD supports AES-256 encryption and is Trusted Computing Group (TCG) enterprise compliant. To consistently ensure the highest reliability, the XceedIOPS2 SATA SSD is equipped with extensive error-correction and detection, multi-level data-path and code protection, data-fail recovery, advanced thermal management features, and SMART's proprietary EverGuard™ technology for back-up power protection.

Offering industry-leading endurance, SMART's XceedIOPS2 SATA SSD employs a highly efficient flash-management algorithm that includes bad-block management, static wear leveling, and minimal write amplification. To address specific power needs, the XceedIOPS2 SSD offers advanced power management that ensures a specific power envelope through performance throttling. Comprehensive diagnostic tools are provided through SSD-specific S.M.A.R.T. attributes. This unique combination of features results in the industry's highest reliability in the field, which is backed by a five-year warranty*.

Enterprise-Grade Flash

Designed with the latest enterprise-grade multi-level cell (E-MLC) NAND flash, the XceedIOPS2 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 XceedIOPS2 SATA SSD to handle the most demanding enterprise workloads.

XceedIOPS2 SATA Product Family

	Capacity (GB)	Sustained Performance	Random Performance
E-MLC	50 - 400	520MB/s	60K IOPS ¹

¹ Based on 4KByte transfer size

Features

- Thermal management
- Powerful ECC engine
- Data path protection
- Data fail recovery
- EverGuard technology
- Advanced power management
- Comprehensive S.M.A.R.T. attributes
- AES-256 encryption



Specifications

	1.8" Form Factor	2.5" Form Factor
Performance		
Burst	600MB/s	
Sustained Read/Write	Up to 520MB/s ¹	
IOPS	Up to 60,000 ²	
Access Time	<1.0 msec	
Interface	SATA 6Gb/s	
Capacity		
E-MLC	50GB - 400GB	
Reliability		
Data Reliability	<1 in 10 (18) bits read ³	
Endurance	E-MLC: Five-year lifetime ⁴	
Error Correction/Error Detection (BCH)	55 bits for every 512-byte sector	
Data Fail Recovery	Recover up to 1 NAND flash erase block of data	
Power Fail Recovery	EverGuard™	
Temperature Monitoring	Performance throttling upon warning/critical temperature	
Encryption	AES-256 (FIPS-197 Certified)	
Security	TCG-Enterprise	
Power		
Vcc	3.3 ± 5%	5V ± 5%
Active (Typ)	1800 mA	
Idle	500 mA	
Advanced Power Management	Power Throttling	
Environmental		
Shock	200g half-sine, 10msec, 1 shock along each axis, X, Y, Z, in each direction	
Vibration	200g half-sine, 2msec, 1 shock along each axis, X, Y, Z, in each direction	
Operating Temperature	0 °C to 70 °C (Internal)	
Storage Temperature	-40 °C to 90 °C	
Humidity	5% to 95%, non-condensing, relative humidity ⁵	
Altitude	24,384 m (80,000 ft)	
Mechanical		
Length	78.5 mm	100.2 mm
Width	54.0 mm	69.85 mm
Height	5.0 mm	9.5 mm

(1) Based on a 128KB transfer rate

(2) Random performance values are based on 4 KByte transfers, using Iometer 2008

(3) The JEDEC 64.8 specification requires 1 in 10 (16) for enterprise-class SSDs

(4) Performance throttling may be activated to ensure a 3 or 5-year lifetime for specific workloads.

(5) Based on MIL-STD 810-F, Method 507.4

Ordering Information

Part Number	Capacity (GB)	NAND Technology
XceedIOPS SATA 1.8"		
SG9XCS1P50GE01	50	E-MLC
SG9XCS1P100GE01	100	E-MLC
SG9XCS1P200GE01	200	E-MLC
SG9XCS1P400GE01	400	E-MLC
XceedIOPS SATA 2.5"		
TX22D10050GB0001	50	E-MLC
TX22D10100GB0001	100	E-MLC
TX22D10400GB0001	200	E-MLC
TX22D10400GB0001	400	E-MLC



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