

XceedIOPS SAS SSD

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SMART Modular Technologies' XceedIOPS SAS 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 SAS SSD can eliminate performance bottlenecks associated with traditional rotating-media disk drives. A single XceedIOPS SAS SSD can replace multiple hard disk drives, improving server utilization and the system's total cost of ownership.

SMART's XceedIOPS SAS is available in a 2.5" form factor and delivers 250/230 MB/s sequential read/write speeds and up to 26,000/20,000 random read/write IOPS. All versions of the XceedIOPS SAS operate within the commercial temperature range (0 to +70 °C) and offer a capacity range of 100 to 400GB.

The XceedIOPS SAS 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. In addition, the XceedIOPS SAS supports variable sector sizes, which allows host transfer sizes of 512, 520, and 528 bytes.

Enterprise-Grade Flash

Designed with the latest 34 nm E-MLC NAND Flash, the XceedIOPS SAS 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 SAS 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.

XceedIOPS SAS Product Family

	Capacity (GB)	Sustained Performance	Random Performance
E-MLC	100, 200, 400	Up to 250 MB/s	Up to 26,000 IOPS ¹

¹ Based on 4KByte transfer size

Unique Features

- Enterprise-Grade MLC NAND flash
- Temperature Throttling
- Performance Throttling
- Powerful ECC engine
- Data Path Protection
- Data Fail Recovery
- Power Fail Recovery
- Variable Sector Sizes (512, 520, and 528 Bytes)



Specifications

XceedIOPS SAS	
2.5" Form Factor	
Performance	
Burst	300 MB/s
Sustained Read/Write	Up to 250/230 MB/s
Random Read/Write	Up to 26,000/20,000 IOPS
Access Time	< 0.2 msec
Interface	SAS 3 Gb/s
Capacity	
E-MLC	100GB to 400GB
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	Performance throttling upon warning/critical temperature
Diagnostic	Comprehensive S.M.A.R.T. attributes
Power	
Vcc	5V ± 5%
Active (Typ)	3.5 W
Idle	2 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 75°C
Humidity	5% to 95%, non-condensing, relative humidity
Altitude	24,384 m [80,000 ft]
Length	100.2 mm
Width	70 mm
Height	9.5 mm

* Performance throttling may be invoked to ensure 5 year lifetime

Ordering Information

Part Number	Capacity (GB)	NAND Technology
XceedIOPS SAS 2.5"		
SG9XCA2E100GE01	100	E-MLC
SG9XCA2E200GE01	200	E-MLC
SG9XCA2E400GE01	400	E-MLC



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