

SMART's Storage Solutions

Xcel-200 (Preliminary)



Xcel-200 2.5" SATA SSD

SMART Modular Technologies' Xcel-200 2.5" SATA solid state drive (SSD) combines high performance, superior reliability, and unique data security features into a single design, making it the ideal storage solution for the most demanding defense, industrial automation, transportation, medical and telecommunication applications.

Because of its high random and sequential performance, the Xcel-200 SSD can eliminate performance bottlenecks associated with traditional hard disk drives. A single Xcel-200 SSD can replace several hard drives, improving footprint utilization, lowering the system power requirement as well as lowering the system's total cost of ownership.

Utilizing a SATA 6Gb interface, Xcel-200 SSDs deliver 500 MB/s sequential read/write speeds, up to 60,000 random read IOPS and up to 40,000 random write IOPS. Capacities of 60-240GB are available using highly reliable single-level cell (SLC) NAND Flash.

SMART's rugged Xcel-200 SSDs are designed to meet the needs of mission-critical applications where high shock, vibration and temperature tolerances are as important as high performance and reliability. A comprehensive set of diagnostic tools is provided through SSD-specific S.M.A.R.T. attributes which can be used to monitor the health of the drive.

Xcel-200 SSDs include the Security Erase feature per the ATA-8 specification to easily eliminate all user data from the drive. All data written to the drive is automatically protected with AES 256-bit encryption. Deletion of the encryption key takes less than 1 second and renders all user data useless as it can no longer be decrypted.

EverGuard™

SMART's EverGuard technology protects against loss of user data in the event of unexpected power interruptions using a 3rd generation backup power circuit design. High-reliability discrete capacitors are used to provide a much more sustainable solution than can be achieved with super capacitors.

XCEL-200 Product At-A-Glance

	Capacity (GB)	Sustained Performance	Performance
2.5" SATA	60, 120, 240	500 MB/s Read 500 MB/s Write	Up to 60,000 IOPS Read and 40,000 IOPS Write (Based on 4KB transfer size)

Features

- High random and sequential I/O performance
- SLC NAND flash for enhanced reliability and durability
- Ideal for high shock, high vibration and high and low temperature applications.
- Comprehensive S.M.A.R.T. attributes
- AES 256-bit encryption automatically protects all data written to the drive.



Xcel-200 Specifications (Preliminary)

Xcel-200 2.5" SATA	
Performance	
Burst	600 MB/s
Sequential	500 MB/s Read, 500 MB/s Write
Random (1)	60,000 IOPS Read, 40,000 IOPS Write
Access Time	<1.0 msec
Interface	SATA 6Gb/s
Capacity	
SLC	60GB, 120GB and 240GB
Reliability	
Data Reliability	< 1 in 10 ¹⁸ bits read
Error Correction (RS)	55 bits for every 512-byte sector
Data Fail Recovery	Recover up to 1 NAND flash erase block of data
Power Fail Recovery	Array of High Reliability capacitors
Flash Management	
Wear Leveling	Static
Endurance (1)	10,000 terabytes written
Power	
Input Voltage	5V +/-5%
Idle (typ)	2.5 W
Operational (typ)	6 W
Environmental	
Operating Temp	-40°C to +85°C
Storage Temp	-55°C to +95°C
Operating Shock (2)	50 g half-sine, 11ms, 3 shocks along each axis: X, Y, Z
Vibration (2)	16.4 g rms, Jet
Altitude (ft) (2)	80,000 (24,384m)
Relative Humidity (2)	5% to 95% non-condensing
Physical	
Form Factor	2.5"
Length (mm)	100.2
Width (mm)	70
Height (mm)	9.5
Connector	SATA

(1) Performance throttling may be invoked to ensure 3 year lifetime

(2) Based on MIL-STD-810F



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