



SMART RUGGED™

S5E | 2.5" SATA

SMART's RUGGED S5E 2.5" SATA solid state drives (SSDs) deliver high performance, high capacity storage solutions optimized for defense, aerospace and other applications requiring durable, rugged and secure storage. S5E 2.5" SATA SSDs provide sustained read/write performance to meet the needs of high throughput applications, such as flight data recorders and sensor data capture. They are also well suited for high-reliability telemetry, surveillance, and mission-critical applications.

The S5E offers up to 480GB of storage using highly reliable Single-Level Cell (SLC) NAND Flash. Conforming to SMART's "true" industrial grade standards, S5E 2.5" SATA SSDs are superior to typical SSDs and HDDs in terms of ruggedness, vibration and shock resistance, and environmental resilience.

Features & Benefits

- AES-XTS 256-Bit Encryption Automatically Protects Data Written to The Drive
- Passes MIL-STD-810G
- True Industrial Grade Storage Solution for "No-Compromise" Applications
- Advanced Flash Management for Enhanced Reliability and Durability
- Self-Monitoring Analysis and Reporting Technology (S.M.A.R.T.) Support
- 100% 8 Hour Burn-In (I-Temp -40°C to +85°C)
- SafeDATATM Technology Combines Unique Power Loss Detection and Hold-Up Circuitries That Protects Data in Case of Sudden Power Failure
- Secure Data Elimination Technology (SDET) Meets Current Military Data Declassification Standards (Optional)
- TCG OPAL 2.0 Compliant (Optional)

Product Family Overview

Capacity	Sequential Performance	Random Performance
60GB to 480GB	Up to 530MB/s Read Up to 530MB/s Write	80,000 IOPS Read 50,000 IOPS Write

One gigabyte, or GB, equals one billion bytes when referring to drive capacity. Accessible capacity may vary based on the operating environment and drive formatting



Applications

- Military
- Defense
- Aerospace
- Telemetry
- Surveillance

Specifications

S5E 2.5" SATA	
NAND Type	SLC
Performance	
Host Interface Rate (maximum)	6Gb/s (Backwards compatible to 3Gb/s & 1.5Gb/s)
Capacities	60GB to 480GB
Burst	600MB/s
Sequential Read (maximum)	Up to 530MB/s
Sequential Write (maximum)	Up to 530MB/s
Random Read (maximum)	80,000 IOPS
Random Write (maximum)	50,000 IOPS
Reliability	
MTBF	> 2M hours, Telcordia 25°C ¹
Data Reliability	1 in 10 ¹⁷ bits read
Data Retention	> 10 years @ 25°C
Endurance	Up to 30,000 TDW
Warranty	1 Year
Power	
Input Voltage	5 V +/- 5%
Idle (typical)	1 W
Operational (typical)	5 W
Environmental	
Shock	1500G half-sine, 0.5 msec, 1 shock along each axis, X, Y, Z in each direction ^{2,3}
Vibration	16.4 g rms 10-2000 Hz random, 3-axes
Conformal Coating	Optional
Relative Humidity ⁴	5% to 95% non-condensing
Operating Temperature	Commercial: 0°C to +70°C Industrial: -40°C to +85°C
Storage Temperature	-55°C to +95°C
Humidity	5% to 95% non-condensing ²
Altitude	24,384 m [80,000 ft]
Mechanical	
Length	100 mm
Width	69.85 mm
Height	7.0 mm

¹Based on 120GB Drive
²Based on MIL-STD-810G
³Tested on 120GB Drive

Data Security Features

2.5" SATA	
Encryption	AES-XTS 256-bit (FIPS 197 compliant)
Protection	Write-Protect Feature
Elimination (Optional)	ATA-8 Security Erase
	ATA-8 Sanitize Device Feature Set Clear DoD
	NISPOM 5220.22-M
	DoD NISPOM 5220.22-M-Sup 1
	NSA/CSS Manual 130-2
	NSA/CSS Manual 9-12
	Army AR 380-19
	Navy NAVSO P-5239-26
	Air Force AFSSI-5020
Two External Triggers	

Ordering Information

Part Number	Density
I-Temp SLC	
HRCA2X0480AI001*	480GB
HRCA2X0240AI001*	240GB
HRCA2X0120AI001*	120GB
HRCA2X0060AI001*	60GB
C-Temp SLC	
HRCA2X0480AC001*	480GB
HRCA2X0240AC001*	240GB
HRCA2X0120AC001*	120GB
HRCA2X0060AC001*	60GB

*Conformal Coat Option Replace "001" with "CC1"



For more information, please visit: www.smartm.com

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