

S5E SSD

SMART Modular Technologies' 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.

Powered by a flexible, custom flash controller, S5E SSDs provide sustained read/write performance to meet the needs of high throughput applications such as flight data recorders and sensor data capture. S5E SSDs are also well suited for high-reliability telemetry, surveillance, and mission-critical applications.

S5E SSDs offer up to 480GB of storage using highly reliable single-level cell (SLC) NAND flash. They are more reliable, offer superior performance, and require less power and cooling than traditional hard disk drives (HDDs). Conforming to SMART's "true" industrial grade standards, they are superior to typical SSDs and HDDs in terms of ruggedness, vibration and shock resistance, and environmental resilience.

Secure Your Data (Optional)

Designed to meet the needs of defense applications, Secure Data Elimination Technology (SDET) complies with current military data elimination standards, providing multiple levels of secure erase techniques.

- The first step of any SDET operation is the deletion of the encryption key which takes less than 1 second and secures all user data since it can no longer be decrypted.
- SDET Clear provides a fast data elimination function that enables erasing of data in seconds.
- SDET Sanitize uses US Government agency defined or unique customer defined sanitization procedures, allowing full media declassification.

In addition, access control features include write protection for added data security.

Features

- **SDET technology meets current military data declassification standards (Optional)**
- **AES-XTS 256-bit encryption automatically protects all data written to the drive**
- **Passes MIL-STD-810G**
- **OPAL 2.0 compliant (Optional)**
- **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 over Temperature (-40°C to +85°C, I-Temp Version)**

S5E SATA Product Family

Capacity	Sustained Performance	Random Performance
120, 240, 480GB	530MB/s Read 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.



S5E Specifications

2.5" SATA	
Performance	
Burst	600MB/s
Sustained	530MB/s Read 530MB/s Write
Random	80,000 IOPs Read 50,000 IOPs Write
Capacity	
SLC	120, 240, 480GB ¹
Reliability	
MTBF	> 2M hours, Telcordia 25°C ²
Data Reliability	1 in 10 ¹⁷ bits read
Data Retention	> 10 years @ 25°C
Endurance	40,000 Total Drive Writes ³
Warranty	3 Years
Power	
Input Voltage	5 V +/- 5%
Idle (typical)	1 W
Operational (typical)	5 W
Environmental	
Operating Shock	50 g half-sine, 11 ms, 3 shocks along each axis, X, Y, Z, in each direction ^{4,5}
Vibration	16.4 g rms ^{4,5,6}
Altitude	24,384m [80,000 ft.] ⁴
Relative Humidity	5% to 95% non-condensing ⁴
Conformal Coating	Optional
Operating Temp	Industrial (-40° C to 85° C) Commercial (0° C to 70° C)
Storage Temp	-55° C to 95° C
Mechanical	
Length	100.2mm
Width	69.85mm
Height	7.0mm
Connector	6 Gb/s SATA

(1) 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

(2) Based on 120GB drive

(3) Under typical conditions

(4) Based on MIL-STD-810G

(5) Tested on 120GB Drive

(6) 10-2000 Hz random, 3-axes

S5E 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

S5E Ordering Information

Part Number
I-Temp
HRCA2XccccAI001
Secure (+OPAL) I-Temp
HRCA2PccccAI001
C-Temp
HRCA2XccccAC001
Secure (+OPAL) C-Temp
HRCA2PccccAC001

cccc = Capacity
0120 = 120GB
0240 = 240GB
0480 = 480GB

Conformal Coat Option

Replace "001" with "CC1"

Contact information

Corporate Headquarters/North America: 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 • E: customers@smartm.com

Latin America: T: (+55) 11 4417-7200 • E: sales.br@smartm.com

EMEA: T: (+44) 0 7826-064-745 • E: sales.euro@smartm.com

Asia/Pacific: T: (+65) 6678-7670 • E: sales.asia@smartm.com

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

