



# SMART RUGGED™

## T5E | M.2 2280 SATA

SMART's RUGGED T5E M.2 2280 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. T5E M.2 2280 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.

Conforming to SMART's "true" industrial grade standards, T5E M.2 2280 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)
- TCG OPAL 2.0 Compliant

### Product Family Overview

Capacity	Sequential Performance	Random Performance
240GB to 1920GB <sup>1</sup>	Read: Up to 520 MB/s Write: Up to 500 MB/s	Read: 81,000 IOPS Write: 70,000 IOPS

<sup>1</sup>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

M.2 2280	
NAND Type	3D TLC
<b>Performance</b>	
Host Interface Rate (maximum)	6Gb/s (Backwards compatible to 3 Gb/s & 1.5 Gb/s)
Capacities	240 GB to 1920 GB
Burst	600 MB/S
Sequential Read (maximum)	Up to 520 MB/s
Sequential Write (maximum)	Up to 500 MB/s
Random Read (maximum)	81,000 IOPS
Random Write (maximum)	70,000 IOPS
<b>Reliability</b>	
MTBF	> 2M hours, Telcordia 25°C
Data Reliability	1 in 10 <sup>17</sup> bits read
Data Retention	> 10 years @ 25°C
Endurance	Up to 2100 Total Drive Writes
Warranty	1 Year
<b>Power</b>	
Input Voltage	3.3V +/- 5%
Idle (typical)	< 0.875A
Operational (typical)	< 5.0W
<b>Environmental</b>	
Shock	1500G half-sine, 0.5 msec, 1 shock along each axis, X, Y, Z in each direction <sup>1</sup>
Vibration	16.4 g rms 10-2000 Hz random, 3-axes
Conformal Coating	Optional
Relative Humidity	5% to 95% non-condensing
Operating Temperature	Industrial: -40°C to +85°C
Storage Temperature	-55°C to +95°C
Altitude	24,384 m [80,000 ft]
<b>Mechanical</b>	
Length	80 mm
Width	22 mm
Height	3.6 mm

<sup>1</sup>Pending

## Data Security Features

M.2 2280	
Encryption	AES-XTS 256-bit (FIPS 197 compliant)
Protection	Optional Write Protect Feature
Elimination	ATA-8 Security Erase

## Ordering Information

Standard	Hardware Write-Protect	Density
HRCA3P0240HIS01*	HRCA3P0240HI001*	240GB
HRCA3P0480HIS01*	HRCA3P0480HI001*	480GB
HRCA3P0960HIS01*	HRCA3P0960HI001*	960GB
HRCA3P1920HIS01*	HRCA3P1920HI001*	1920GB

\*For Standard with Conformal Coating, replace "S0 1" with "SC1"

\*For Hardware Write-Protect with Conformal Coating, replace "001" with "CC1"

For more information, please visit: [www.smartm.com](http://www.smartm.com)

*\*Product images are for promotional purposes only. Labels may not be representative of the actual product.*

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