Data Sheet

s846 Encryption

SAS SSD

2.5” Low Latency SED Drives

One of the primary concerns for CIOs in the enterprise is data security. Encrypted data delivers an additional level of security to enterprise systems. HGST s846 Self-Encrypting Drive (SED) SAS SSDs add a new capability—AES-XTS 256 hardware-based encryption—to enterprise systems.

In addition to their world-class performance, s846 Encryption SAS SSDs are the most reliable, longest lasting SSD solutions now available for the enterprise market. Based on fourth-generation HGST patented SSD controller technology, s846 Encryption SAS SSDs deliver the best performance, endurance (i.e., device lifetimes) and reliability that is unmatched in the industry.

Features and Benefits

Feature / Function	Benefits
Encryption (SED)	Adds hardware-based encryption (SED) for data security and protection. Compliant to TCG Enterpise specifications
Serial Attached SCSI interface in a 2.5-inch form factor	Industry’s gold standard for enterprise performance SSDs supporting servers and Tier-0 storage applications
High Performance	Random transactional performance exceeds 115,000 sustained IOPS, with sustained random or sequential large block transfers up to 530MB/s
Power/Performance Efficiency	A single s846 Encryption SAS SSD replaces large numbers of enterprise HDDs while delivering superior performance and data persistence, instant backup and recovery in the event of an unplanned power failure
Secure Array of Flash Elements™ (SAFE) Technology	Provides the ability to recover from NAND flash page, block, die and chip failures, and maximizes the Mean Time Between Failure (MTBF) and Mean Time To Data Loss (MTTDL)
CellCare™ Technology	Extends the life of flash media to deliver enterprise-class endurance through advanced signal processing and adaptive flash management algorithms
Available Capacities	s846 Encryption drives are available in 400GB, 800GB, 1.6TB and 2TB capacities

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s846 Encryption SAS SSD

Information and Technical Support
www.hgst.com (Main Web site)
www.hgst.com/partners (Partner Web site)

North America
support__usa@hgst.com
Toll free: 1 888 426-5214, Direct: 1 408 717-8087

Asia Pacific
support__ap@hgst.com / 65 6840 9595

EMEA and UK
support__uk@hgst.com / 44 20 7133 0032

Germany
support__uk@hgst.com / 49 6929 993601

Program Support
Partners First Program channelpartners@hgst.com

Specifications

Models	**s846 Encryption SAS SSD**			
Interface				
Capacity*	400GB / 800GB / 1.6TB / 2TB**			
Type	SAS			
Transfer Rate	6Gb/s			
Availablility	Dual-port			
Performance	**400GB**	**800GB**	**1.6TB**	**2TB**
Sustained Read Throughput†	530MB/s	530MB/s	530MB/s	530MB/s
Sustained Write Throughput	470MB/s	470MB/s	470MB/s	470MB/s
Max 100% Read IOPS	115,000	115,000	115,000	115,000
Max 100% Write IOPS	112,000	112,000	112,000	112,000
Max 100% Random Read IOPS (4K)	85,000	85,000	85,000	85,000
Max 100% Random Write IOPS (4K)	41,000	43,000	65,000	33,000
Max Power	9W	9W	12W	12W
MTBF (hours)	2M (million) hours			
Physical				
Form Factor	2.5-inch			
Weight	<0.4kg			
Dimensions	100.2mm(L) x 69.8mm(W) x 15.0mm(H)			
Operational Temperature	0° to 60°C (Commercial)			
Endurance				
Drive Writes Per Day for 5 Years (Up to)	30x	30x	37x	30x
Lifetime Petabytes Written (PBW) (Max)	22	44	110	110

[1] One GB is equal to one billion bytes when referring to hard drive capacity. Accessible capacity will vary depending on the operating environment and formatting.
[2] Portion of buffer capacity used for drive firmware
[3] MB is equal to MillionBytes
[4] Excludes command overhead
[5] MTBF target is based on a sample population and is estimated by statistical measurements and acceleration algorithms under median operating conditions. MTBF ratings are not intended to predict an individual drive's reliability. MTBF does not constitute a warranty.
†The drive saturates the I/O bus **1TB = 1000GB *As used for capacity, one megabyte (MB) = one million bytes, one gigabyte (GB) = one billion bytes, and one terabyte (TB) = one trillion bytes. The available capacity is dependent upon the operating environment and formatting.
††Recommended for read-intensive applications only.

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