s846 SAS

Highlights

- MLC NAND Flash for ultra-high performance and endurance
- Best IOPS/Watt for reduced TCO
- Advanced power loss data management technology
- Self-encrypting drive conforms to TCG's Enterprise specification

Applications/Environments

- Ultra-high performance tier-0 enterprise storage
- Enterprise-class servers and high performance computing
- Online Transaction Processing (OLTP)
- Financial and e-commerce
- Database analytics

Low Latency Self-Encrypting Drives (SEDs)

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 its world-class performance, the s846 SAS SSD provides the most reliable, longest lasting SSD solution now available for the enterprise market. Based on fourth generation HGST patented SSD controller technology, the s846 SAS SSD delivers the best performance, endurance (i.e., device lifetimes) and reliability that is unmatched in the industry.

HGST Enterprise Storage Experience

HGST leverages decades of proven enterprise storage expertise in Serial Attached SCSI (SAS) design, reliability, firmware, customer qualification and system integration to the s846 2.5-inch SAS solid-state drive (SSD) family. The synergistic relationship between HGST's new throughput-enhancing SSDs and traditional HDDs provides cost effective, end-to-end enterprise-class storage solutions, delivering reliability, compatibility, capacity, cost and system performance. This combination makes HGST a leading SSD/HDD provider with the experience and technology needed to meet escalating reliability, endurance and performance in the most demanding enterprise environments.

HGST Quality and Service

HGST's s846 SAS SSD family extends the company's long-standing tradition of performance and reliability leadership. A balanced combination of new and proven technologies enables high reliability and availability to customer data.

HGST drives are backed by an array of technical support and services, which may include customer and integration assistance. HGST is dedicated to providing a complete portfolio of SSD/HDD solutions to satisfy today's monumental computing needs.

s846
Encryption SAS SSD

2000GB and 1600GB | MLC
2.5-inch SFF | SAS 6Gb/s

Features & Benefits

	Performance	Capacity	Reliability	Encryption
Feature/function	• SAS interface in a 2.5-inch form factor • MLC NAND Flash memory • High throughput • Power/performance efficiency	• 2000GB • 1600GB	• Secure Array of Flash Elements™ (SAFE) technology • CellCare® technology	Self-encrypting drive (SED)
Benefit	• Industry's gold standard for enterprise performance SSDs supporting servers and Tier-0 storage applications • Highest write performance and endurance • Random transactional performance exceeds 80,000 sustained IOPS, with sustained random or sequential large block transfers up to 530MB/s • A single s846 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	More capacity in a compact form factor for less space and power	• 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) • Extends the life of Flash media to deliver enterprise-class endurance through advanced signal processing and adaptive Flash management algorithms	Adds hardware-based encryption for data security and protection; compliant to TCG Enterprise specifications

s846 SAS

Specifications

Model / Part No.	S846E1600M2 / 0T00159 S846E2000M2 / 0T00167

Configuration

Interface	SAS 6Gb/s
Capacity (GB[1]) at 512 bytes/sector	1600 / 2000
Form factor	2.5-inch
Flash memory technology	Multi Level Cell (MLC)
Availability	Dual Port

Performance

Read throughput (max MB/s, sequential 64K)	530 / 530
Write throughput (max MB/s, sequential 64K)	460 / 460
Read IOPS (max IOPS, random 4K)	80,000 / 80,000
Write IOPS (max IOPS, random 4K)	63,000 / 37,000

Reliability

MTBF[2] (M hours)	2.0

Power

Operating (max W)	12.0

Encryption

256-bit	Yes

Endurance

Drive writes per day for 5 years (max)	37 / 30
Lifetime PB[1] written (max)	110 / 110

Physical

z-height (mm)	15
Dimensions (width x depth, mm)	69.8 x 100.2
Weight (g)	< 40

Environmental

Operating temperature	0º to 60º C

[1] One GB is equal to one billion bytes, one TB equals 1,000GB (one trillion bytes) and one PB equals 1,000TB (one quadrillion bytes when referring to drive capacity. Accessible capacity will vary from the stated capacity due to formatting and partitioning of the drive, the operating system and other factors.

[2] MTBF target is based on a sample population and is estimated by statistical measurements and acceleration algorithms under nominal operating conditions. MTBF ratings are not intended to predict an individual drive's reliability. MTBF does not constitute a warranty.

* 2000GB recommended for Read Intensive applications

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Product specifications provided are sample specifications and do not constitute a warranty. Information is true as of the date of publication and is subject to change. Actual specifications for unique part numbers may vary.

Please visit the Support section of our website, www.hgst.com/support, for additional information on product specifications. Photographs may show design models.

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