# s846 Micro SAS

## Highlights

- MLC NAND Flash for ultra-high performance and endurance
- Best IOPS/Watt for reduced TCO
- SAS interface in a small 1.8-inch form factor
- 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
- Space and/or power constrained environments
- Online Transaction Processing (OLTP)
- Financial and e-commerce
- Database analytics

## 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 Micro 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.



400GB and 200GB | MLC
1.8-inch SFF | SAS 6Gb/s

## Compact, High-Performance Self-Encrypting Drives (SEDs)

Sometimes smaller is better and accelerating access to data is a proven success formula for enterprises and service providers worldwide.

HGST's s846 Self-Encrypting Drive (SED) 1.8" Micro SAS SSDs are uniquely designed for blade servers, caching and other high-density computing environments that have physical space constraints. This is based on the fourth generation SAS design from HGST and brings sustainable IOPS performance to new levels.

In addition to their world-class performance, s846 Micro SAS SSDs are the most reliable, longest lasting SSD solutions now available for the enterprise market. Based on the fourth generation controller technology, HGST takes sustainable I/O performance to new levels.

## HGST Quality and Service

HGST's s846 Micro 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.

---

HGST

# s846 Micro SAS

## Features & Benefits

| | Performance | Capacity | Reliability | Encryption |
|---|---|---|---|---|
| Feature/function | • SAS interface in a 1.8-inch form factor<br>• MLC NAND Flash memory<br>• High throughput<br>• Power/performance efficiency | • 400GB<br>• 200GB | • Secure Array of Flash Elements™ (SAFE) technology<br>• CellCare® technology | Self-encrypting drive (SED) |
| Benefit | • Industry's gold standard for enterprise performance Micro SAS SSDs supporting servers and Tier-0 storage applications in the standard small form factor<br>• Highest write performance and endurance<br>• Random transactional performance up to 65,000 sustained IOPS, with sustained random or sequential large block transfers up to 520MB/s | Improved performance with higher power option | • 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)<br>• 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 |

## Specifications

| Model / Part No. | S846E200M1 / 0T00173<br>S846E400M1 / 0T00185 |
|---|---|

### Configuration

| | |
|---|---|
| Interface | Micro SAS 6Gb/s |
| Capacity (GB[1]) at 512 bytes/sector | 400 / 200 |
| Form factor | 1.8-inch |
| Flash memory technology | Multi Level Cell (MLC) |
| Availability | Dual Port |

### Performance

| | |
|---|---|
| Read throughput (max MB/s, sequential 64K) | Up to 520 |
| Write throughput (max MB/s, sequential 64K) | Up to 380 |
| Read IOPS (max IOPS, random 4K) | 65,000 |
| Write IOPS (max IOPS, random 4K) | 37,000 |

### Encryption

| | |
|---|---|
| 256-bit | Yes |

### Endurance

| | |
|---|---|
| Drive writes per day for 5 years (max) | 28 |
| Lifetime PB[1] written (max) | 20.8 |

### Physical

| | |
|---|---|
| z-height (mm) | 5 |
| Dimensions (width x depth, mm) | 54 x 78.5 |
| Weight (g) | < 40 |

### Environmental

| | |
|---|---|
| Operating temperature | 0° to 60° C |
| Non-operating temperature | -25° to 85° C |
| Humidity | Non-condensing 5-95% |
| Shock (half-sine wave) | 350G |
| Altitude (ft) | -1,000 to 80,000 |
| Compliance | Lead free (RoHS) |

[1] One gigabyte (GB) is equal to one billion bytes, one terabyte (TB) is equal to 1,000GB (one trillion bytes), and one petabyte (PB) is equal to 1,000TB (one quadrillion bytes) when referring to solid-state drive or hard drive capacity. Accessible capacity will vary from the stated capacity due to formatting and partitioning of the drive, the computer's operating system, and other factors.

References in this publication to HGST's products, programs or services do not imply that HGST intends to make these available in all countries in which it operates.

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.