

# s841 SAS SSD

## Enterprise Solid-State Drives

### Highlights

- cMLC NAND Flash for higher ROI while delivering high performance and endurance
- 6Gb/s SAS interface for maximum throughput
- Advanced power loss data management technology
- Outperforms competitive SATA SSDs while delivering enterprise endurance

### Applications/Environments

- Cloud and Datacenters
- Enterprise-class servers and High Performance Computing
- Space and/or power constrained environments
- Web servers
- Video on demand, Streaming media
- Database acceleration/Archival storage

### Performance and Capacity for the Data Center

Accelerating access to data is a proven success formula for enterprises and service providers worldwide.

The s841SAS SSDs from HGST are engineered to take performance to new levels in the data center and eliminate data access bottlenecks. The s841 delivers up to a massive industry-leading 2TB capacity, ideally suited for read-intensive applications, and also offers capacities for today's sweet-spot, 800GB and 400GB. With sustained IOPs of up to 83,200 read and 16,200 write, and maximum sequential throughput of 525MB/s read and 395MB/s write, the s841 SSD enables rapid access to "hot" enterprise data for improved productivity and operational efficiency.

### Endurance Through Innovation

The s841 SSD combines commercial-grade MLC NAND flash memory, advanced endurance management firmware and power loss data management techniques to extend reliability, endurance and sustained performance over the life of the SSD. With an MTBF rating of 2M hours, the 2TB model can endure an impressive 25PB of random writes over the life of the drive. HGST's innovative CellCare™ technology is key to the s841 endurance success and extends the life of flash media to deliver enterprise-class endurance through advanced signal processing and adaptive flash management algorithms.

For complete data protection and reliability, the s841 incorporates extended error correction code (ECC), Secure Array of Flash Elements™ (SAFE) technology to protect against flash die failure and an exclusive power loss data management feature using super capacitors. The s841 is also backed by a five-year limited warranty or the maximum petabytes (PB) written (based on capacity).

### Features and Benefits

	Feature / Function	Benefits
<b>Performance</b>	SAS 6Gb/s	6G Active-Active Dual port for enhanced reliability
	cMLC NAND flash memory	Consistent write performance and endurance
	Up to 525/395 MB/s sequential R/W	Maximum throughput and IOPs for ultra-fast access to data.
	Up to 83K / 30K IOPS random R/W	Significantly faster than typical HDD and SATA SSD drives
<b>Capacity</b>	2000, 800, 400 GB capacity	More capacity for less space and power
<b>Reliability</b>	2M Hours MTBF	Reduced field replacement effort
	1E-17 bit error rate	Enhanced error detection and correction for optimal data integrity
	Power loss data management	Assures data integrity during power failure
	Unlimited reads, up to 25 PB writes (2000 GB)	Maximum endurance over the life of SSD
<b>Integration</b>	HDD architecture commonality	Extensive interoperability and compliance testing



400/800/2000GB | cMLC  
2.5-inch SFF | SAS 6Gb/s

## HGST quality and service

HGST's s841 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 HDD/SSD solutions to satisfy today's monumental computing needs.

### 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

Model # / Part #	2000GB (2TB) 800GB 400GB	HS8422T2TASS600 / OT00166 HS8422T80ASS600 / OT00197 HS8404040ASS600 / OT00183
Configuration		
Interface	SAS 6Gb/s	
Capacity (GB) <sup>1</sup> at 512 Bytes/sector	2000*/ 800 / 400	
Form factor	2.5"	
Flash memory technology	Multi Level Cell (cMLC)	
Performance		
Read Throughput (max MB/s, Seq.64K)	520/525/525	
Write Throughput (max MB/s, Seq 64K)	345/395/360	
Read IOPS (max IOPS, Rnd 4K)	63,000/83,200/70,000	
Write IOPS (max IOPS, Rnd 4K)	5,300/16,200/30,800	
Reliability		
Error rate (non-recoverable bits read)	1 in 10 <sup>17</sup>	
MTBF <sup>2</sup> (M hours)	2.0	
Availability (hrs/day x days/wk)	24x7	
Endurance (max PB <sup>1</sup> , Rnd write)	25 (16K) / 14.4 (8K) / 7.2 (4K)	
Power		
Requirement	+5 VDC (+/-5%) +12 VDC (+/-5%)	
Operating (W, typical)	12/9/9	
Physical size		
z-height (mm)	15.0	
Dimensions (width x depth, mm)	69.8 x 100.2	
Weight (g, max.)	<400g	
Environmental (operating)		
Case temperature	0° to 60° C	
Shock (half-sine wave)	150G (1.0ms)	
Vibration, random (G RMS)	2.00 (10 to 500 Hz)	

<sup>1</sup>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.

<sup>2</sup>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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