Data Sheet

MACH16™ Slim SATA

Embedded SSD

A True Enterprise-Class SSD for the Embedded Market

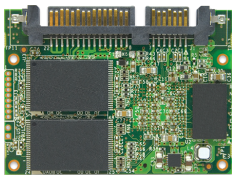
The new MACH16™ Slim SATA Embedded SSD provides embedded system designers and Original Equipment Manufacturers (OEMs) with the same advanced flash management technology as HGST's market-leading enterprise SSDs.

MACH16 SSD technology has been extended to embedded system design with one of the industry's smallest solid-state solution formats. In addition to its small format, the MACH16 Slim SATA Embedded SSD can leverage industry-standard 22-pin SATA cabling (JEDEC MO-297 and SFF-8156 specifications) in order to provide the highest data integrity, endurance and reliability available in this market segment.

Through sustained performance of up to 245MB/s for sequential 128K read operations, and up to 150MB/s for sequential 128K write operations, MACH16 Slim SATA is ideally suited for a range of embedded applications, including rugged PCs, casino gaming, transportation systems, ATM machines, kiosks, point-of-sale machines, printers, vehicle infotainment systems, data loggers and medical equipment.

Features and Benefits

Feature / Function	Benefits
PowerSafe™ Technology	Provides instant data backup and recovery in the event of an unplanned power failure
Secure Array of Flash Elements™ (SAFE) Technology	Improves reliability by providing mechanisms for recovery from NAND flash page, block, die and chip failures that improve the Mean Time Between Failure (MTBF) and the Mean Time To Data Loss (MTTDL)
CellCare™ Technology	Combines flash management techniques, digital signal processing, ECC methods and other technologies to increase NAND cell endurance, data retention and performance
Advanced SSD controller and firmware	Optimizes performance, endurance, data integrity and reliability of the embedded SSD
Predictive read optimization	Minimizes loss of performance over the useful life of the MACH16 Slim SATA
Data-path protection	Protects critical data from corruption
Advanced error correction	Measures and manages flash media wear
Advanced wear Leveling	Spreads the writing of each data block evenly across all data blocks for consistent and even use of NAND blocks, ensuring that one block location does not wear out faster than any other block location



HGST
a Western Digital company

A True Enterprise-Class SSD for the Embedded Market

MACH16 Slim SATA delivers the features required for enterprise computing and other mission-critical applications where downtime is not an option.

Information and Technical Support
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Specifications

Interface	
Type	SATA II (3Gbps)
Capacity (GB)[1]	25 / 50
Form Factor	Slim SATA (MO-297)
Performance	
Average Response Time	<16ms
Transfer Rate (Read)	Up to 245MB/s
Transfer Rate (Write)	Up to 150MB/s
Transactional Performance (Read IOPS)	24,000 (random)
Transactional Performance (Write IOPS)	5,000 (random)
MTBF	5 million hours
Physical	
Dimensions (mm)	54mm (L) X 39mm (W) X 4mm (H)
Power	4W
Power Supply	5V or 3.3V
Acoustics	
Idle (Bels, typical)	2.9
Environmental	
Operational Temperature	-40° to 85°C
Non-Operating Temperature	-55° to 95°C
Shock/Vibration	350G/20G
Humidity (non-condensing)	5% to 95%
Altitude	-1,000 to 80,000 ft.
Compliance	
	UL, FCC, CE, C-Tick, CSA, VCCI, EIP, RoHS-6

[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.

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