

MH80 SATA Series



CAPACITY ¹	80GB	120GB	160GB
MODEL	HM08HHI	HM12HII	HM16HJI

FEATURES

- 80GB Formatted Capacity Per Disk
- TuMR head with wireless suspension design
- Serial ATA 1.5Gbps Interface Support
- SATA Native Command Queuing Feature set
- Device Initiated SATA Power Management
- Fluid Dynamic Bearing Spindle Motor Technology
- Load/Unload Head Technology
- ATA Security Mode Feature Set
- ATA SMART Feature Set
- ATA Automatic Acoustic Management Feature Set
- ATA Device Configuration Overlay Feature Set
- Multi-Burst On-The-Fly Error Correction
- FlashOn™⁽²⁾
- NVC Command Set(T13 ATA8 Extension)
- Quick Power On Ready®
- NVC Power Management™

DRIVE CONFIGURATION

Interface	SATA 1.5Gbps
Buffer DRAM Size ¹⁰	8 Mbytes
OneNAND Flash ³	256MB
Bytes per Sector	512

PERFORMANCE SPECIFICATIONS

Read Seek Time (typ.)	
Track to Track	2 ms
Average	12 ms
Full Stroke	22 ms
Average Latency	5.6 ms
Rotational Speed	5,400 rpm
Data Transfer Rate	
Media to/from Buffer (max.)	530MB/s
Buffer to/from Host (max.)	150MB/s
NV Cache Read (max) ⁴	100MB/s
NV Cache Write (max) ⁴	9MB/s
Power On to Command Ready (typ.) ⁵	0.8 sec
Drive Ready Time (typ.)	4 sec

RELIABILITY SPECIFICATIONS

Non-recoverable Read Error	1 sector in 10 ¹⁴ bits
MTBF	600,000 POH
Controlled Ramp Load/Unload	600,000

ACOUSTICS (AVERAGE SOUND POWER)

Idle	1-Disk	2.2 Bel
	2-Disk	2.4 Bel
Random Read/Write	1-Disk	2.4 Bel
	2-Disk	2.6 Bel

ENVIRONMENTAL SPECIFICATIONS

Temperature	
Operating	5 ~ 55 °C
Non-operating	-40 ~ 70 °C
Humidity (non-condensing)	
Operating	5 ~ 90 %
Non-operating	5 ~ 95 %
Linear Shock (1/2 sine pulse)	
Operating, 2ms	325 G
Non-operating, 1ms	1000 G
Vibration (swept sine, 1/4 octave per minute)	
Operating	
5 ~ 500 Hz	1.0 Go-p
Non-operating	
10~ 20Hz	0.195in (double amp)
21 ~ 500 Hz	5 Go-p
500~800 Hz	3 Go-p
Altitude (relative to sea level)	
Operating	-1000 to 10000 ft
Non-operating	-1400 to 50000 ft

POWER REQUIREMENTS⁶

Voltage	+5V±5%
Spin Up (max.)	4.50 W
Seek ⁵ (typ.)	2.10 W
Read/Write On-Track (typ.) ⁸	2.00 W
Read NV Cache (typ.) ⁷	0.85 W
Write NV Cache (typ.)	0.75 W
Low power Idle (typ.)	0.60 W
Standby (typ.)	0.25 W
Sleep (typ.)	0.20 W

PHYSICAL DIMENSION

Height	0.37 in
Width	3.94 in
Depth	2.75 in
Weight	0.22 lb

Specifications are subject to change without notice.

¹ 1MB=1,000,000 Bytes 1GB=1,000,000,000 Bytes

² Supported Hybrid Features

³ NAND flash for hybrid. 11.256MB is reserved for HDD firmware

⁴ Data transfer rate to and from flash memory

⁵ Time taken by NV cache to come Ready

⁶ 30% duty cycle, random seek

⁷ Drive remains at idle, drive responds to all cmmds from NV cache at spindle down mode

⁸ NV Cache deactivated

⁹ Power requirements based on enabled DIPM & 1.5Gbps speed

¹⁰ 1186KB is used for HDD firmware

¹¹ Unless otherwise specified, specifications are for 2-disk configuration

