

P20 Series - Samsung Hard Disk Drive

Model	SP1001H	SP2002H	SP3003H	SP4004H
Capacity	10.0GB	20.0GB	30.0GB	40.0GB
Heads	1	2	3	4
Disks	1	1	2	2

Contact

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Features

- 3.5-inch High Performance Hard Disk Drives
- 7,200 rpm Spindle Speed
- High Speed Digital Signal Processor (DSP) Based Architecture
- Ultra DMA-100 Compatible
- SSB™ (Shock Skin Bumper)
- ImpacGuard™
- NoiseGuard™ Acoustic Noise Suppression Technology
- Automatic Acoustic Management
- Support ATA Security Mode Feature
- Support ATA Host Protected Area Feature
- S.M.A.R.T Compliant

Performance Specifications

Read Seek Time (typical, read)	
Track to Track	0.8 ms
Average	9.0 ms
Full Stroke	18 ms
Average Latency	4.17 ms
Spindle Speed	7,200 rpm
Data Transfer Rate	
Media to/from Buffer(max.)	473 Mbits/s
Buffer to/from Host (max.)	100 Mbytes/s
Buffer Size	2 MB

Reliability Specifications

Non-recoverable Read Error	1 in 10 ¹⁴ bits
MTBF (POH)	500,000 hours
Start/Stop Cycles	50,000
Component Design Life	5 years

Environmental Specifications

Temperature	
Operating	5 ~ 55°C
Non-operating	-40 ~ 70°C
Thermal Gradient (max.)	20°C/hr

Humidity (non-condensing)

Operating	5 ~ 85 %
Non-operating	5 ~ 95 %

Altitude (relative to sea level)

Operating	-650 to 10,000 feet
Non-operating	-1,000 to 40,000 feet

Shock and Vibration

Linear Shock (1/2 sine pulse, 2 ms duration)

Operating	63 G
Non-operating	300 G

Vibration (swept sine)

Operating (1 octave per minute)	
5 ~ 21 Hz	0.034" (double amplitude)
22 ~ 300 Hz	1.5 Gp-p
Non-operating(1 octave per minute)	
5 ~ 21 Hz	0.195" (double amplitude)
22 ~ 500 Hz	8 Gp-p

Power Consumption (typical)

Voltage	5V ± 5% / 12V ± 10%
Power Up Current(max.)	500 / 1850mA
Read/Write	6.2W
Seek	7.0W
Idle	6.0 W
Standby	1.0 W
Sleep	1.0 W

Acoustic Noise

Sound Power (average)	
Idle	3.0 bels
Random Read/Write	3.1 bels

Physical Dimension

Height	1 inch
Width	4 inches
Depth	5.75 inches
Weight	1.4 pounds

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Rev.B 1/2001

P series



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