



S A M S U N G H A R D D I S K D R I V E



VOYAGER 3



The HDD Power that gets you ahead in business - Samsung HDD

VOYAGER 3

VG32163A / VG34323A / VG36483A

Features

- Fully Compatible for Major Operating Systems
- 5,400 rpm Spindle Speed
- EPR4 Read Channel with 16/17 rate code
- 142 Mbits/sec Maximum Data Rate
- Ultra ATA/EIDE Interface
- PIO Mode 4/Multi-Word DMA Mode 2/Ultra DMA
- Error Correction on the Fly (Multi-Burst)
- 512KB Segmented Read/Write Cache Buffer
- S.M.A.R.T. Function is Supported

Drive Architecture

Formatted Capacity	
Gbytes per Drive	2.16/4.32/6.48
Megabytes per Surface	1,080
Bytes per Sector	512
Physical Organization	
Disks	2/2/3
Data Surfaces	4/4/6
Read / Write Heads	5/4/6
Cylinder	9,069
Sectors per Track	162 -288

Functional Specifications

Actuator Type	Rotary Voice Coil
Interface	Enhanced IDE
Servo	Embedded Sector Servo
Recording Method	16/17 EPR4
Recording Density (bpi, max.)	174,000
Flux Density (fcpi, max.)	185
Track Density (tpi)	9,200

Performance Specifications

Seek Time (RD / WT typical)	
Track to Track	<2.0 ms
Average	<11 ms
Full Stroke	<22ms
Average Latency	5.56 ms
Spindle Speed	5,400 ± 0.1% rpm
Data Transfer Rate	
Media to / From Buffer	81-142 Mbits/s
Buffer to / From Host	16.6/33.3 Mbytes/s
Start Time	
Typical	15sec
Stop Time	
Typical	7 sec
Buffer Size	512 Kbytes

Reliability Specifications

Recoverable Read Error	1 in 10 ¹⁰ bits
Correctable Read Error	1 in 10 ¹² bits
Non-recoverable Read Error	1 in 10 ¹⁴ bits
MTBF (POH)	500,000 hours
MTTR (typical)	5 minutes
Start / Stop Cycles	50,000
Component Design Life	5 years

Environmental Specifications

Temperature	
Operating	5 ~ 55°C
Non-operating	-40 ~ 65°C
Thermal Gradient (max.)	20°C/15%/hr
Humidity (non-condensing)	
Operating	8 ~ 80%
Non-operating	8 ~ 95%
Maximum Wet Bulb	29/40°C
Altitude (relative to sea level)	
Operating	-200 to 10,000 feet
Non-operating	-1,000 to 40,000 feet

Shock and Vibration

Shock (1/2 sine pulse, 11 ms duration)	
Operating	10 G
Non-operating	75G
Vibration (swept sine, 1 octave per minute)	
Operating	
5 ~ 21 Hz	0.034" (double amplitude)
22 ~ 400 Hz	1.5 Gp-p
Non-operating	
5 ~ 21 Hz	0.195" (double amplitude)
22 ~ 500 Hz	8 Gp-p

Power Characteristics

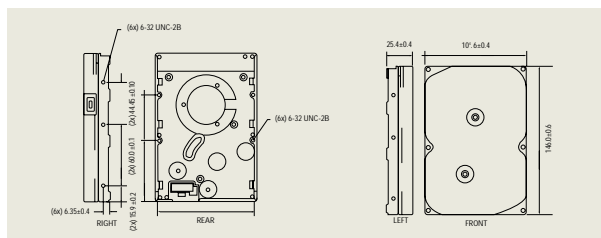
Power supply tolerance	5V ± 5%	12V ± 10%
Power Up (max.)		700/1550 mA
Read/write (typical)		5.6 watts
Seek (typical)		6.8 watts
Idle (typical)		5.6 watts
Standby (typical)		1.3 watts
Sleep (typical)		1.3 watts

Acoustic Noise

Maximum value at 1 meter	
Idle	32 dBA
Random Read / Write	36 dBA

Physical Dimension

Height	1 inch
Width	4 inches
Depth	5.75 inches
Weight	1.2 pounds



* Design and specifications are subject to change without notice.



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