

Samsung Electronics

PLS-31100A

FEATURES

- 1 inch height form factor
- 4,500 rpm spindle speed
- 12 msec average seek time
- Power Management for "Green PC"
- PIO(mode 3) is supported
- 46.2 Mbits/sec maximum data rate
- 256KB segmented read/write cache buffer
- AT/IDE Interface (Enhanced)
- 88 bits Reed-Solomon error correction
- Automatic parking and locking
- Automatic reassignment of defective sector

DRIVE ARCHITECTURE

Formatted Capacities	
Megabytes per Drive	1100.3
Megabytes per Surface	183.4
Bytes per Sector	512
Physical Organization	
Disks	3
Data Surfaces	6
Read/Write Heads	6
Cylinder	3631
Sectors per Track	72 ~ 114

FUNCTIONAL SPECIFICATIONS

Actuator Type	Rotary Voice Coil
Interface	AT (IDE Type)
Servo	Embedded Sector Servo
Recording Method	1,7 RLL
Recording Density (bpi,max.)	70,407
Flux Density (fcpi,max.)	52,805
Track Density (tpi)	4,100

PERFORMANCE SPECIFICATIONS

Seek Time (typical)	
Track to Track	3 ms
Average	12 ms
Full Stroke	24 ms
Average Latency	6.7 ms
Spindle Speed	4,500 ± 0.1% rpm
Data Transfer Rate	
To/From Media	46.2 Mbits/s
To/From Buffer	11 MBytes/s
Command Overhead (max.)	0.5 msec
Start Time	
Typical	8 sec
Maximum	15 sec
Stop Time	
Typical	7 sec
Maximum	15 sec
Interleave	1:1
Buffer Size	256 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)	300,000 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/hr
Humidity (non-condensing)	
Operating	8 ~ 80 %
Non-operating	8 ~ 95 %
Maximum Wet Bulb	26 °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	75 G
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 CONSUMPTION

Power Up (max.)	15.0 watts
Read/Write (typical)	4.8 watts
Seek (typical)	5.0 watts
Idle (typical)	3.2 watts
Standby (typical)	1.6 watts
Sleep (typical)	1.5 watts

ACOUSTIC NOISE

Maximum value at 1 meter	
Idle	35 dBA
Random Read/Write	40 dBA

PHYSICAL DIMENSION

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

Specifications are subject to change without notice

