

# Laptop SSHD Laptop Thin SSHD

Data Sheet

## Unparalleled Speed. Huge Capacity. Amazing Value.

- Equipped with both 32GB and 8GB NAND Flash for enhanced performance
- Boots and performs like an SSD<sup>1</sup>
- Capacities up to 1TB
- All-in-one design for simplicity and ease of installation
- Installs and works just like a traditional hard drive in any laptop, PC, Mac or game console, and with any OS and application
- SATA 6Gb/s with NCQ for interface speed
- Self-Encrypting Drive (SED) versions available to maximize data protection and minimize the risk of confidential information breaches
- Backed by a 5-year limited warranty

## Best-Fit Applications

- Thin, thinner and thinnest z-heights
- Perfect for gaming, creative professional, and high performance settings
- 9.5mm for all-in-one PCs and larger laptops
- 7mm for thin and light laptops and high-performance gaming systems

<sup>1</sup> Performance may vary depending on user's hardware configuration and operating system. Testing performed on a Seagate<sup>®</sup> Laptop SSHD 1TB and Seagate Laptop Thin SSHD 500GB.





# Laptop SSHD Laptop Thin SSHD



Specifications	9.5mm	9.5mm	7mm
Capacity	1TB	1TB	500GB
Standard Model with 8GB NAND Flash	—	ST1000LM014	ST500LM000
Standard Model with 32GB NAND Flash	ST1000LX001	—	—
Standard Zero Gravity Sensor (ZGS) Model	—	—	—
Self-Encrypting Drive (SED) Model <sup>1</sup>	—	ST1000LM028	ST500LM001
SED-FIPS 140-2 Model <sup>2</sup>	—	ST1000LM015	ST500LM020
Model Name	Laptop SSHD	Laptop SSHD	Laptop Thin SSHD
Interface <sup>3</sup>	SATA 6.0/3.0/1.5Gb/s NCQ	SATA 6.0/3.0/1.5Gb/s NCQ	SATA 6.0/3.0/1.5Gb/s NCQ
<b>Performance</b>			
Flash Memory Type	32GB NAND Flash	8GB NAND Flash	8GB NAND Flash
<b>Versus 2.5-in. 5400-RPM/7200-RPM HDD</b>			
Game Load Test <sup>4</sup>	200% Faster/95% Faster	140% Faster/50% Faster	140% Faster/50% Faster
Application Load Test <sup>5</sup>	600% Faster/400% Faster	450% Faster/300% Faster	450% Faster/300% Faster
Windows 7 Boot Time <sup>6</sup>	35% Faster/25% Faster	35% Faster/25% Faster	35% Faster/25% Faster
<b>Configuration/Organization</b>			
Heads/Disks	4/2	4/2	2/1
Bytes per Sector	4096	4096	4096
Power Supply Requirements	+5V	+5V	+5V
<b>Reliability/Data Integrity</b>			
Head-Rest Method	QuietStep™ Ramp Load	QuietStep™ Ramp Load	QuietStep Ramp Load
Load/Unload Cycles	600,000	600,000	600,000
Nonrecoverable Read Errors per Bits Read, Max	1 per 10E15	1 per 10E15	1 per 10E15
Annualized Failure Rate (AFR)	0.48%	0.48%	0.48%
Limited Warranty (years)	5	5	5
<b>Power Management</b>			
Power, Seek, Typical (W)	2.7W	2.7W	2.5W
Idle Average (W)	0.9W	0.9W	0.9W
<b>Environmental/Temperature</b>			
Temperature, Operating/NonOperating (ambient, min °C)	0°C/-40°C	0°C/-40°C	0°C/-40°C
Temperature, Operating/NonOperating (ambient, max °C)	60°C/70°C	60°C/70°C	60°C/70°C
Shock, Operating: 2ms (Gs)	350Gs	350Gs	350Gs
Shock, Nonoperating: 1ms (Gs)	1000Gs	1000Gs	1000Gs
Acoustic, Seek/Idle, Typical (bels)	2.4bels/2.2bels	2.4bels/2.2bels	2.2bels/2.0bels
<b>Physical</b>			
Height (mm/in)	9.5mm/0.374in	9.5mm/0.374in	6.8mm/0.268in
Width (mm/in, max)	69.85mm/2.750in	69.85mm/2.750in	69.85mm/2.750in
Depth (mm/in, max)	100.35mm/3.95in	100.35mm/3.95in	100.35mm/3.95in
Weight (g/lb)	115g/0.254lb	115g/0.254lb	95g/0.209lb
Carton Unit Quantity	50	50	50
Cartons per Pallet / Cartons per Layer	60/10	60/10	60/10

<sup>1</sup> Self-Encrypting Drives (SED) and FIPS 140-2 Validated drives are not available in all models or countries. May require TCG-compliant host or controller support.

<sup>2</sup> Some SED FIPS 140-2 models in review. See FIPS 140-2 Level 2 Certificate at: <http://csrc.nist.gov/groups/STM/cmvp/documents/140-1/1401val2011.htm#1635>

<sup>3</sup> Supports hotplug operation per Serial ATA Revision 2.6 specification.

<sup>4</sup> Testing conducted by Seagate. Tested using PCMark 7 system storage gaming test. Results have been rounded for display purposes. HDD performance may vary by brand, model and application.

<sup>5</sup> Testing conducted by Seagate. Tested using PCMark 7 system storage starting applications test. Results have been rounded for display purposes. HDD performance may vary by brand, model and application.

<sup>6</sup> Testing conducted by Seagate using Intel Core i5-based with Intel QM77 chipset laptop and configured with 8GB RAM. Tested using Microsoft utility. Results have been rounded for display purposes. HDD performance may vary by brand, model and application.

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