

# Laptop SSHD Laptop Thin SSHD Ultra Mobile SSHD

## Data Sheet

### SSD-like Speed. Large HDD Capacity. An Affordable Price.

- 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 3-year limited warranty<sup>2</sup>

### Best-Fit Applications

- Thin, thinner and thinnest z-heights
- 9.5mm for all-in-one PCs and older laptops
- 7mm for thin and light laptops and high-performance gaming systems
- 5mm for tablets and ultrabooks

<sup>1</sup> Performance may vary depending on user's hardware configuration and operating system.

Testing performed on a Seagate® Laptop SSHD 1TB, Seagate Laptop Thin SSHD 500GB and Seagate Ultra Mobile SSHD 500GB.

<sup>2</sup> Extended warranty products available. Consult your distributor for details.



# Laptop SSHD Laptop Thin SSHD Ultra Mobile SSHD



Specifications	9.5mm	7mm	5mm
Model Name	Laptop SSHD	Laptop Thin SSHD	Ultra Mobile SSHD
Capacity	1TB <sup>1</sup>	500GB <sup>1</sup>	500GB <sup>1</sup>
Standard Model	ST1000LM014	ST500LM000	ST500LX012
Standard Zero Gravity Sensor (ZGS) Model	—	—	ST500LX014
Self-Encrypting Drive (SED) Model <sup>2</sup>	ST1000LM015	ST500LM001	ST500LX016
SED-FIPS 140-2 Model <sup>3</sup>	ST1000LM028	ST500LM020	ST500LX013
Interface <sup>4</sup>	SATA 6Gb/s NCQ	SATA 6Gb/s NCQ	SATA 6Gb/s NCQ
<b>Performance</b>			
NAND Type/Size	MLC/8GB	MLC/8GB	MLC/8GB
Interface Access Speed (Gb/s)	6.0/3.0/1.5	6.0/3.0/1.5	6.0/3.0/1.5
Average Data Throughput (MB/s)	100	100	100
PC Mark Vantage Average HDD Score	16,000	16,000	16,000
Average Windows 8 Boot Time (sec)	<19	<19	<19
Seek Average, Read (ms)	<12	<12	<12
Seek Average, Write (ms)	<14	<14	<13
<b>Configuration/Organization</b>			
Heads/Disks	4/2	2/1	2/1
Bytes per Sector	4096	4096	4096
Power Supply Requirements	+5V	+5V	+5V
<b>Reliability/Data Integrity</b>			
Head-Rest Method	QuickStep™ Ramp Load	QuickStep Ramp Load	QuickStep 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
Predicted Annualized Failure Rate (AFR)	0.48%	0.48%	0.48%
Limited Warranty (years) <sup>5</sup>	3	3	3
<b>Power Management</b>			
Power (W)			
Seek, Typical	2.7	2.5	2.5
Idle, Typical	0.9	0.9	0.6
<b>Environmental</b>			
Temperature (°C)			
Operating	0 to 60	0 to 60	0 to 60
Nonoperating	–40 to 70	–40 to 70	–40 to 70
Shock (Gs)			
Operating: 2ms	350	350	400
Nonoperating: 1ms	1000	1000	1000
Acoustics (bels—sound power)			
Idle, Typical	2.2	2.0	2.0
Seek, Typical	2.7	2.2	2.2
<b>Physical</b>			
Height (mm/in, max)			
Standard and SED Models	9.5/0.374	7.0/0.276	5.0/0.268
FIPS Model	9.5/0.374	7.0/0.276	5.2/0.276
Width (mm/in, max)	69.85/2.75	69.85/2.75	69.85/2.75
Depth (mm/in, max)	100.35/3.95	100.35/3.95	100.35/3.95
Weight (g/lb)	115/0.254	95/0.209	93/0.205
Carton Unit Quantity	50	50	50
Cartons per Pallet	60	60	60
Cartons per Layer	10	10	10

1 One gigabyte, or GB, equals one billion bytes and one terabyte, or TB, equals one trillion bytes when referring to drive capacity.

2 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.

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

4 Supports hotplug operation per Serial ATA Revision 2.6 specification.

5 Extended warranty products available. Consult your distributor for details.

[www.seagate.com](http://www.seagate.com)

AMERICAS  
ASIA/PACIFIC  
EUROPE, MIDDLE EAST AND AFRICA

Seagate Technology LLC 10200 South De Anza Boulevard, Cupertino, California 95014, United States, 408-658-1000  
Seagate Singapore International Headquarters Pte. Ltd. 7000 Ang Mo Kio Avenue 5, Singapore 569877, 65-6485-3888  
Seagate Technology SAS 16-18, rue du Dôme, 92100 Boulogne-Billancourt, France, 33 1-4186 10 00

© 2014 Seagate Technology LLC. All rights reserved. Printed in USA. Seagate, Seagate Technology and the Wave logo are registered trademarks of Seagate Technology LLC in the United States and/or other countries. QuietStep is either a trademark or registered trademark of Seagate Technology LLC or one of its affiliated companies in the United States and/or other countries. The FIPS logo is a certification mark of NIST, which does not imply product endorsement by NIST, the U.S., or Canadian governments. All other trademarks or registered trademarks are the property of their respective owners. When referring to drive capacity, one gigabyte, or GB, equals one billion bytes and one terabyte, or TB, equals one trillion bytes. Your computer's operating system may use a different standard of measurement and report a lower capacity. In addition, some of the listed capacity is used for formatting and other functions, and thus will not be available for data storage. Actual data rates may vary depending on operating environment and other factors. The export or re-export of hardware or software containing encryption may be regulated by the U.S. Department of Commerce, Bureau of Industry and Security (for more information, visit [www.bis.doc.gov](http://www.bis.doc.gov)), and controlled for import and use outside of the U.S. Seagate reserves the right to change, without notice, product offerings or specifications. DS1814.1-1405US, May 2014