

Laptop SSHD Laptop Thin SSHD Ultra Mobile SSHD

Data Sheet

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

- Boots and performs like an SSD¹
- 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 warranty²

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

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.
 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 ¹ | 500GB ¹ | 500GB1 |
| Standard Model | ST1000LM014 | ST500LM000 | ST500LX012 |
| Standard Zero Gravity Sensor (ZGS) Model | _ | _ | ST500LX014 |
| Self-Encrypting Drive (SED) Model ² | ST1000LM015 | ST500LM001 | ST500LX016 |
| SED-FIPS 140-2 Model ³ | ST1000LM028 | ST500LM020 | ST500LX013 |
| Interface ⁴ | SATA 6Gb/s NCQ | SATA 6Gb/s NCQ | SATA 6Gb/s NCQ |
| Performance | | | |
| 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 |
| Configuration/Organization | ×17 | \\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\ | \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ |
| Heads/Disks | 4/2 | 2/1 | 2/1 |
| Bytes per Sector | 4096 | 4096 | 4096 |
| Power Supply Requirements | +5V | +5V | +5V |
| Reliability/Data Integrity | +31 | +37 | +50 |
| 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) ⁵ | 3 | 3 | 3 |
| Power Management | | | Ü |
| Power (W) | | | |
| Seek, Typical | 2.7 | 2.5 | 2.5 |
| Idle, Typical | 0.9 | 0.9 | 0.6 |
| Environmental | 0.3 | 0.3 | 0.0 |
| Temperature (°C) | | | |
| Operating | 0 to 60 | 0 to 60 | 0 to 60 |
| Nonoperating | -40 to 70 | -40 to 70 | -40 to 70 |
| Shock (Gs) | -40 to 70 | -40 to 70 | -40 to 70 |
| Operating: 2ms | 350 | 350 | 400 |
| Nonoperating: 1ms | 1000 | 1000 | 1000 |
| Acoustics (bels—sound power) | 1000 | 1000 | 1000 |
| Idle, Typical | 2.2 | 2.0 | 2.0 |
| Seek, Typical | 2.7 | 2.0 | 2.0 |
| Physical | 2.1 | 2.2 | 2.2 |
| 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 |
| | 115/0.254 | 95/0.209 | 93/0.205 |
| Weight (g/lb) | 50 | 50 | |
| Carton Unit Quantity | 60 | 60 | 50 |
| Cartons per Pallet | | *** | 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.

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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, 331-4186 10 00

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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.

 $^{3 \} Some \ SED \ FIPS \ 140-2 \ models \ in \ review. \ See \ FIPS \ 140-2 \ Level \ 2 \ Certificate \ at: \ http://csrc.nist.gov/groups/STM/cmvp/documents/140-1/1401val2011.htm#1635$

 $^{4\ \}mbox{Supports}$ hotplug operation per Serial ATA Revision 2.6 specification.

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