

Data Sheet

Momentum[®] Thin

The World's First 7mm, 2.5-Inch Form Factor Drive

Key Advantages

- 7mm z-height form factor enables thin chassis design for all segments of laptop computing.
- Seagate SmartAlign[™] technology provides a transition to 4K sectors without the need for software utilities.¹
- Self-Encrypting Drives mitigate data breaches, comply with data protection regulations and preserve brand recognition.¹
- Self-Encrypting Drives with FIPS 140-2 certification are approved for the U.S. and Canadian governments.^{1,2}

Best-Fit Applications

- Entry-level to high-performance laptops—Enjoy a stylish, thin and lightweight design without exceeding your budget.
- Netbooks—Get a thinner netbook without compromising on storage or affordability.
- Ultraportables—Take advantage of a stylish, thin and lightweight design without compromising on features.
- Slim consumer electronics devices—Add some style to your digital life.

¹ Refer to specifications table for further information and feature options.

² See FIPS 140-2 Level 2 Certificate at <http://csrc.nist.gov/groups/STM/cmvp/documents/140-1/1401vend.htm>



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- Seagate clearly demonstrates how to help differentiate, increase profitability and meet market demand for slim computing.
- The 2.5-inch form factor enables compromise-free, cost-effective and reliable storage for slim, entry-level laptops, high-end netbooks, ultraportables and CE devices.
 - Seagate® Momentum® Thin drives come in 500, 320, 250 and 160GB capacities, to provide the right capacity points for full-functioning computing devices. For performance enthusiasts, check out the 7200-RPM Momentum Thin drive.
 - Users now have 16MB of cache on both the mainstream 5400-RPM and the high-performance 7200-RPM options.
 - Seagate Self-Encrypting Drives (SED) deliver government-grade encryption without performance degradation—protecting your data where it lives.
 - The Momentum Thin SED is the first Trusted Computing Group Opal specification drive to achieve FIPS 140-2, Level-2 certification by the U.S. and Canadian governments.

Specifications	Momentum 5400 Drives				Momentum 7200 Drives		
	500GB ¹	320GB ¹	250GB ¹	160GB ¹	320GB ¹	250GB ¹	160GB ¹
Feature Options							
Standard Models	ST500LT012 ²	ST320LT020 ² ST320LT012 ³	ST250LT003 ² ST250LT012 ³	ST160LT003 ²	ST320LT007 ²	ST250LT007 ²	ST160LT007 ²
Self-Encrypting Drive Models	ST500LT025 ³				ST320LT014 ²	ST250LT014 ²	
Self-Encrypting Drive FIPS 140-2 Validated	ST500LT015 ³				ST320LT009 ²	ST250LT009 ²	
Interface	SATA 3Gb/s NCQ	SATA 3Gb/s NCQ	SATA 3Gb/s NCQ	SATA 3Gb/s NCQ	SATA 3Gb/s NCQ	SATA 3Gb/s NCQ	SATA 3Gb/s NCQ
Cache (MB)	16	16	16	16	16	16	16
Configuration							
Bytes per Sector	4096	4096	4096	4096	4096	4096	4096
Reliability/Data Integrity							
Head-Rest Method	Quiet Step™ Ramp Load	Quiet Step™ Ramp Load	Quiet Step Ramp Load	Quiet Step Ramp Load	Quiet Step Ramp Load	Quiet Step Ramp Load	Quiet Step Ramp Load
Load/Unload Cycles	>600,000	>600,000	>600,000	>600,000	>600,000	>600,000	>600,000
Nonrecoverable Read Errors per Bits Read	1 per 10E14	1 per 10E14	1 per 10E14	1 per 10E14	1 per 10E14	1 per 10E14	1 per 10E14
Annualized Failure Rate (AFR)	0.48%	0.48%	0.48%	0.48%	0.48%	0.48%	0.48%
Power Management							
Power (W)							
Seek, Typical	1.2	1.4	1.4	1.4	1.6	1.6	1.6
Idle, Typical	0.45	0.48	0.48	0.48	0.66	0.66	0.66
Environmental							
Temperature (°C)							
Operating	0 to 60	0 to 60	0 to 60	0 to 60	0 to 60	0 to 60	0 to 60
Nonoperating	-40 to 70	-40 to 70	-40 to 70	-40 to 70	-40 to 70	-40 to 70	-40 to 70
Shock (Gs)							
Operating: 2ms	400	350	350	350	350	350	350
Nonoperating: 1ms	1000	1000	1000	1000	1000	1000	1000
Acoustics (bels—sound power)							
Idle, Typical	2.0	2.0	2.0	2.0	2.3	2.3	2.3
Seek, Typical	2.2	2.2	2.2	2.2	2.5	2.5	2.5
Physical							
Height (in/mm)	0.276/7.0	0.276/7.0	0.276/7.0	0.276/7.0	0.276/7.0	0.276/7.0	0.276/7.0
Width (in/mm)	2.76/70.1	2.76/70.1	2.76/70.1	2.76/70.1	2.76/70.1	2.76/70.1	2.76/70.1
Depth (in/mm)	0.209/95	3.959/100.55	3.959/100.55	3.959/100.55	3.959/100.55	3.959/100.55	3.959/100.55
Weight (lb/g)	0.203/92.0	0.203/92.0	0.203/92.0	0.203/92.0	0.203/92.0	0.203/92.0	0.203/92.0
Carton Unit Quantity	50	50	50	50	50	50	50
Cartons per Pallet	60	60	60	60	60	60	60
Cartons per Layer	10	10	10	10	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 Advanced Format 4K sector drive with SmartAlign™ technology resolves misalignment conditions.

3 SmartAlign technology is not available on this model.

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