



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 utilities¹
- Self-Encrypting Drives mitigate data breaches, comply with data protection regulations and preserve brand recognition¹
- Self-Encrypting Drives with FIPS 140-2 certification are approved by the US 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 — have 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 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, take a look at the 7,200 RPM Momentum Thin drive.
- Users now have 16MB of cache on both the mainstream 5,400 RPM and the high-performance 7,200 RPM options.
- Seagate Self-Encrypting Drives (SEDs) deliver US-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 US 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	4,096	4,096	4,096	4,096	4,096	4,096	4,096
Reliability/Data Integrity							
Head-Rest Method	QuietStep™ Ramp Load	QuietStep Ramp Load	QuietStep Ramp Load	QuietStep Ramp Load	QuietStep Ramp Load	QuietStep Ramp Load	QuietStep Ramp Load
Load/Unload Cycles	>600,000	>600,000	>600,000	>600,000	>600,000	>600,000	>600,000
Non-recoverable Read Errors per Bits Read	1 per 10 ¹⁴	1 per 10 ¹⁴	1 per 10 ¹⁴	1 per 10 ¹⁴	1 per 10 ¹⁴	1 per 10 ¹⁴	1 per 10 ¹⁴
Annualised 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
Idling, 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
Non-operating	-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
Non-operating: 1ms	1,000	1,000	1,000	1,000	1,000	1,000	1,000
Acoustics (bels — sound power)							
Idling, 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)	3.959/100.55	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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