

Data Sheet

Momentum® FDE Family

2.5-inch Self-Encrypting Drives with optional FIPS 140-2 certification*

**500GB and 250GB • 7200 RPM and 5400 RPM •
Up to 16MB cache • SATA 3Gb/s with NCQ**

Key Advantages

- FIPS 140-2 certification enables compliance for mandatory government data protection and security regulations in the U.S. and Canada.
- Hardware-based encryption without the headaches and without the performance degradation of software-based encryption
- Enterprise-ready with third-party ISV manageability, including remote management capabilities
- Factory designed-in, hardware-based encryption keeps the cost, the integration and the deployment simple.

Best-Fit Applications

Mainstream and high-performance laptops and backup storage for:

- Government: federal and state
- Healthcare
- Finance and banking
- Education
- Corporations



* Certification will be finalized in January, 2010; drives are currently shipping.

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Encryption Integration Without the Headaches

Seagate® Momentum FDE drives are the fourth generation of self-encrypting technology. Hardware-based encryption delivers three core benefits:

Eliminates complexity by building encryption into the hard drive—where your data lives

No performance impact, because encryption takes place on the fly—no need to steal CPU cycles like software encryption does

Enables security management applications—even remotely—with exclusive Seagate Secure® technology protocols

The Importance of FIPS 140-2

Seagate Momentum FDE drives are now available with FIPS 140-2 certification* by the National Institute of Standards and Technology. Data security encryption compliance is mandatory for U.S. federal agencies, the U.S. Department of Defense, the Canadian government, financial institutions and many private sector agencies when it is determined that cryptography is necessary for protecting sensitive information.

Specifications	500GB ¹	250GB ¹	500GB ¹	250GB ¹
Product	Momentum® 7200 FDE Drives		Momentum® 5400 FDE Drives	
Model Number (FDE drives)	ST9500421AS	ST9250411AS	ST9500327AS	ST9250317AS
Model Number (FDE FIPS 140-2 drives)	ST9500422AS ²	ST9250412AS ²		
Interface	SATA 3Gb/s NCQ	SATA 3Gb/s NCQ	SATA 3Gb/s NCQ	SATA 3Gb/s NCQ
Performance				
Cache (MB)	16	16	8	8
Spindle Speed (RPM)	7200	7200	5400	5400
Configuration/Organization				
Bytes per Sector	512	512	512	512
Logical CHS	16,383/16/63	16,383/16/63	16,383/16/63	16,383/16/63
Reliability/Data Integrity				
Recording Method	16/17 EPRML	16/17 EPRML	16/17 EPRML	16/17 EPRML
Head-Rest Method	QuietStep™ Ramp Load	QuietStep Ramp Load	QuietStep Ramp Load	QuietStep Ramp Load
Load/Unload Cycles	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
Power Management				
Power (W)				
Seek, Typical	2.2	2.2	1.54	1.54
Idle, Typical	0.69	0.69	0.67	0.67
Environmental				
Temperature (°C)				
Operating	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
Shock (Gs)				
Operating: 2ms	350	350	350	350
Nonoperating: 1ms	1000	1000	1000	1000
Acoustics (bels—sound power)				
Idle, Typical	2.3	2.3	2.4	2.4
Seek, Typical	2.6	2.6	2.6	2.6
Physical				
Height (in/mm)	0.370/9.5	0.370/9.5	0.374/9.5	0.374/9.5
Width (in/mm)	2.75/69.85	2.75/69.85	2.75/69.85	2.75/69.85
Depth (in/mm)	3.951/100.35	3.951/100.35	3.951/100.35	3.951/100.35
Weight (lb/g)	0.238/110	0.238/110	0.218/98.8	0.218/98.8

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

² Certification will be finalized in January, 2010; drives are currently shipping.

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www.seagate.com

1-800-SEAGATE (1-800-732-4283)

AMERICAS Seagate Technology LLC 920 Disc Drive, Scotts Valley, California 95066, United States, 831-438-6550
 ASIA/PACIFIC Seagate Singapore International Headquarters Pte. Ltd. 7000 Ang Mo Kio Avenue 5, Singapore 569877, 65-6485-3888
 EUROPE, MIDDLE EAST AND AFRICA Seagate Technology SAS 16-18 rue de Dôme, 92100 Boulogne-Billancourt, France, 33 1-4186 10 00

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