Data Sheet

Cheetah® 15K.7

Highest capacity, performance and reliability in 3.5-inch mission-critical storage

600, 450 and 300 GB • 15K RPM • 6 Gb/s Serial Attached SCSI • 4 Gb/s Fibre Channel

Key Advantages

- Third-generation perpendicular recording delivers up to 600 GB
- Unprecedented performance with a sustained data rate of up to 204 MB/s — a 16 per cent increase over the previous generation
- Industry's highest 3.5-inch drive reliability at 1.6 million hours MTBF
- Seagate PowerTrim™ technology provides a 62 per cent improvement in GBs/watt when idling over typical 3.5-inch hard drives
- Read/write advances deliver a non-recoverable error rate of $1x10^{16}$
- Available in 4 Gb/s FC or 6 Gb/s SAS interfaces (supports SAS 2.0 feature set)
- TCG-compliant Self-Encrypting Drive (SED) option cuts IT drive retirement expenses while protecting data securely and is one of the easiest, most cost-effective security measures you can implement[1]
- FIPS Self-Encrypting Drive option provides all the benefits of SED and is NIST certified to meet US, Canada and UK government data encryption compliance requirements[1, 2]

Best-fit Applications

- Business and transaction processing
- Storage area networks and networked attached storage
- Email, decision support, Internet and e-commerce
- US government-grade, data-at-rest security when drives leave your control[1]
- Drive retirement cost reduction and drive life extension strategies[1]

[1] Requires TCG-compliant host or controller support. Not available in all countries.

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

FIPS 140-2 INSIDE

Seagate 5-Year Warranty

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Lowest Cost of Ownership

- Seventh-generation Seagate® Cheetah 15K.7 drive is the fastest, highest capacity and most reliable ever
- Lower watts/GB ratio helps achieve reduced power and cooling costs while optimising capacity requirements
- Higher performance with fewer drives — reducing support infrastructure, physical space requirements and storage management costs
- The highest reliability of any 3.5-inch drive, with increased system reliability due to the need for fewer drives

Highest Reliability

- Seagate continues to focus on reliability and data protection; MTBF is an industry-leading 1.6 million hours
- Seagate-exclusive enhanced Error Correction Code better maintains performance throughout the life of the drive and reduces the probability of lost data
- The third generation of Seagate-exclusive Background Media Scan proactively scans the media for potential defects during drive idling time, thus enabling incipient errors to be corrected before data is lost
- Our Quick and Robust Download feature loads new firmware in a matter of seconds, with built-in protection to ensure no corruption in the event of a power failure during a firmware switch

Strong Enough for National Security[1]

The Cheetah 15K.7 drive is available in SED or FIPS SED models; both eliminate the need to overwrite or physically destroy drives, enable secure return of drives for warranty or expired lease purposes, and allow organisations to repurpose or sell hard drives securely. For added physical security and more stringent regulatory compliance needs, the FIPS SED model is FIPS 140-2 Validated™ for use with sensitive but unclassified or protected (A or B) class data.

These Seagate Secure™ models help OEMs and system builders gain competitive advantage, differentiate solutions (with strong data security), sell to new customers (who require strong data security) and protect brand equity (and customer confidence).

[1] Requires TCG-compliant host or controller support. Not available in all countries.

Specifications	600 GB[1]	450 GB[1]	300 GB[1]
Model Number	ST3600057SS ST3600957SS[2] ST3600857SS[3] ST3600057FC ST3600957FC[2, 4] ST3600857FC[3, 4]	ST3450857SS ST3450757SS[2] ST3450657SS[3] ST3450857FC ST3450757FC[2, 4] ST3450657FC[3, 4]	ST3300657SS ST3300557SS[2] ST3300457SS[3] ST3300657FC ST3300557FC[2, 4] ST3300457FC[3, 4]
Capacity			
Formatted 512 KB/Sector (GB)	600	450	300
External Transfer Rate (MB/s) 4 Gb/s Fibre Channel 6 Gb/s Serial Attached SCSI	 400 600	 400 600	 400 600
Performance			
Spindle Speed (RPM)	15K	15K	15K
Average Latency (ms)	2.0	2.0	2.0
Seek Time Average Read/Write (ms)	3.4/3.9	3.4/3.9	3.4/3.9
Transfer Rate Internal (Mb/s, OD–ID) Sustained (MB/s, 1,000 x 1,000)	 1,450 to 2,370 122 to 204	 1,450 to 2,370 122 to 204	 1,450 to 2,370 122 to 204
Cache, Multi-segmented (MB)	16	16	16
Configuration/Organisation			
Discs/ Heads	4/8	3/6	2/4
Non-recoverable Read Errors per Bits Read	1 sector per 10^{16}	1 sector per 10^{16}	1 sector per 10^{16}
Reliability Rating at Full 24x7 Operation (AFR)	0.55%	0.55%	0.55%
MTBF (hours)	1,600,000	1,600,000	1,600,000
Power Management			
Typical, Fibre Channel (W)	16.31	15.17	13.8
Typical, SAS (W)	16.35	14.6	12.92
Power Idling, Fibre Channel (W)	11.61	10.26	8.98
Power Idling, SAS (W)	11.68	10.1	8.74
Environmental			
Temperature, Operating (°C)	5 to 55	5 to 55	5 to 55
Temperature, Non-operating (°C)	–40 to 70	–40 to 70	–40 to 70
Shock, Operating: 2ms (Gs)	60	60	60
Shock, Non-operating: 2ms (Gs)	300	300	300
Acoustics Idling (bels — sound power)	3.6	3.6	3.6
Vibration, Operating, <400 Hz (Gs)	1.0	1.0	1.0
Vibration, Non-operating, <400 Hz (Gs)	3.0	3.0	3.0
Encryption			
Self-Encrypting Drive Option[2, 4]	Yes	Yes	Yes
FIPS Self-Encrypting Drive Option[3, 4]	Yes	Yes	Yes
Physical			
Height (in/mm)	1.0/25.4	1.0/25.4	1.0/25.4
Width (in/mm)	4.0/101.6	4.0/101.6	4.0/101.6
Depth (in/mm)	5.76/146.52	5.76/146.52	5.76/146.52
Weight (lb/kg)	1.51/0.686	1.49/0.676	1.48/0.671
Warranty			
Limited Warranty (years)	5	5	5

[1] One gigabyte, or GB, equals one billion bytes; and one terabyte, or TB, equals one trillion bytes when referring to hard drive capacity.
[2] Self-Encrypting Drive model; requires TCG-compliant host or controller support. Not available in all countries.
[3] FIPS Self-Encrypting Drive model; requires TCG-compliant host or controller support. Not available in all countries.
[4] Self-Encrypting Drives and FIPS Self-Encrypting Drives are only available in the channel in 6 Gb/s SAS.

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