



6Gb/s SATA Enterprise 2.5" SSDs

CloudSpeed™ Product Family of SATA SSDs

Cost-effective storage for multiple workloads with excellent performance, capacity, endurance, and reliability.

Features

- Guardian Technology Platform
- Up to 5x Better Endurance than Client MLC SSDs
- Powerful Error Correction and Detection
- Consistent Performance Over Warranted Lifetime
- High-Reliability Backup Power Circuitry
- Data Path Protection
- Data Fail Recovery
- Thermal Management
- Comprehensive S.M.A.R.T. Attributes

1000/Read-Intensive Application Workloads

- Web Servers
- Media Streaming
- Virtual Tape Libraries (VTL)
- Video on Demand (VOD)
- Web-Based Applications
- File Servers

1000E/Mixed-Use Application Workloads

- On-Line Transaction Processing (OLTP) Databases
- Financial Transactions
- E-Commerce
- Data Warehousing
- E-Mail/Messaging

SanDisk's CloudSpeed SATA SSD product family was specifically designed to address the need for SSDs that are optimized for read-intensive and mixed-use application workloads in enterprise server and cloud computing environments. Leveraging SanDisk's proprietary Guardian Technology™ Platform, tier-one OEM-enterprise firmware, proven power fail technology and the latest generation of consumer MLC NAND flash, CloudSpeed SSDs offer all the features expected from an enterprise-class drive at the right value.

Available in capacities of 100GB-960GB*, the CloudSpeed SSD product family features a 6Gb/s SATA interface and provides data transfer rates up to 450/400 MB/s** sequential read/write and performance up to 75K/25K IOPS random read/write. CloudSpeed SSDs offer high data integrity by employing a combination of powerful error correction and detection, full data path protection, thermal monitoring, and data fail recovery. These enterprise features enable CloudSpeed SSDs to deliver up to 5x higher endurance than competing client MLC SSDs.

Guardian Technology™ Platform

The product family of CloudSpeed SATA SSDs is powered by SanDisk's proprietary Guardian Technology Platform, a suite of enterprise features that include FlashGuard™, DataGuard™ and EverGuard™ technologies.

FlashGuard Technology combines Aggregated Flash Management, which treats all flash elements as a single system, and Advanced Signal Processing, which dynamically adjusts flash parameters throughout the life of the SSD, to reliably extract significantly more life from cost-effective MLC flash, making it suitable for mixed-use and read-intensive application workloads.

DataGuard Technology features full data path protection, safeguarding user data from corruption along all data paths in the SSD.

EverGuard Technology protects against loss of user data in the event of unexpected power interruptions using a 3rd generation backup power circuit design and high-reliability discrete capacitors.

SanDisk®

CloudSpeed™ Product Family of 2.5" SATA SSDs Product Specifications

	CloudSpeed 1000	CloudSpeed 1000E
Performance		
Interface	6Gb/s SATA	
Burst	600 MB/s	
Sequential Read/Write (MB/s)**	Up to 450/400 MB/s ¹	
Random Read/Write (IOPS)	Up to 75K/12K IOPS ²	Up to 75K/25K IOPS ²
Access Time	< 2.0 ms	
Capacity		
19nm MLC User Capacities*	120GB, 240GB, 480GB, 960GB	100GB, 200GB, 400GB, 800GB
Reliability		
Data Reliability (BER)	1 unrecoverable error in 10 ¹⁷ bits read ³	
MTBF***	2.5M hours	
Data Fail Recovery	Recover up to 1 NAND flash erase block of data	
Power Fail Recovery	High-reliability backup-power circuitry	
Temperature Monitoring	Performance throttling upon warning/critical temperature	
Warranty****	5 Year Lifetime	
Endurance		
DWPD (Random/ Sequential Workload)****	1/6 DWPD	3/7 DWPD
Power		
Vcc	5V ± 5%	
Active (Typ)	5.2W	
Idle	2.2W	
Environmental		
Shock (operating)	1000g @ 1.0 msec, 1 shock along each axis, X, Y, Z, in each direction	
Vibration (operating)	2.17 g rms 7-800 Hz	
Operating Temperature	0° C to 70° C (internal)	
Storage Temperature	-40° C to 95° C	
Humidity	5% to 95%, non-condensing, relative humidity ⁴	
Altitude	-200 feet to 10,000 feet	
Mechanical		
Length	100.2 mm	
Width	69.85 mm	
Height	7 mm	

(1) Based on a 128KB transfer rate, using Oakgate SVF exerciser

(2) Based on 4KB transfer rate using Oakgate SVG exerciser

(3) The JEDEC 64.8 specification requires 1 in 10¹⁷ for enterprise-class SSDs

(4) Based on MIL-STD 883C, Method 2009.2

CloudSpeed 1000 2.5" SATA SSDs - Ordering Information

Part Number	Capacity
SDLFGE7R-120G-1HA1	120GB
SDLFGD7R-240G-1HA1	240GB
SDLFGD7R-480G-1HA1	480GB
SDLFGC7R-960G-1HA1	960GB

CloudSpeed 1000E 2.5" SATA SSDs - Ordering Information

Part Number	Capacity
SDLFGE7R-100G-1HA1	100GB
SDLFGD7R-200G-1HA1	200GB
SDLFGD7R-400G-1HA1	400GB
SDLFGC7R-800G-1HA1	800GB

Specifications subject to change without notice.

*1 GB = 1,000,000,000 bytes. Actual user capacity less.

**Up to stated speed: Based on internal testing; performance may vary depending upon drive capacity, host device, OS and application. 1 megabyte (MB) = 1 million bytes.

***MTBF = Mean Time Between Failures based on parts stress analysis.

****Warranty/DWPD - The lesser of 5 years from the date of manufacture of the product or the date on which the product's relevant endurance thresholds set forth in the product specifications are reached.

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