



12Gb/s SAS Enterprise 2.5" SSDs

Lightning Ultra™ Gen. II SAS SSDs

Maximum bandwidth with high availability and superior data integrity for demanding big data analytics.

Features

- Full data path protection, end-to-end T10-DIF support
- Temperature-based performance control
- MTBF - 2.5 Million Hours³
- 5 Year Warranty⁴

Benefits

- High, Predictable Performance
- Industry-leading Reliability
- Highest cost-to-performance value
- High availability for large dataset analysis
- Complete vertical integration

Write-Intensive Application Workloads

- High Performance Computing (HPC)
- Oil and Gas
- Life Sciences
- Aerospace
- Engineering
- Media Editing
- Data Warehousing
- Analytics
- Indexing
- Database Logging

The Lightning Ultra™ Gen. II 12Gb/s SAS SSD from SanDisk® doubles interface speed, providing the highest performance for mission-critical hyperscale, cloud and virtualized data center application workloads. This next generation Lightning® SSD offers a feature-rich robust design, combined with SanDisk's innovative parallel processing architecture to deliver full data path protection (T10-DIF support), temperature based power control, SED instant secure erase, an MTBF of 2.5 million hours and power fail protection. This SSD is backward-compatible with 6Gb/s SAS and offers a single firmware binary platform for seamless integration and reduced qualification times.

Lightning Ultra™ Gen. II SAS SSDs offer industry-leading predictable performance with high availability for the analysis of large data sets. Available in 19nm SLC capacities from 200GB – 800GB² and with random read/write performance of up to 199K/115K IOPS* and sequential read/write speed of up to 980/740 MB/s¹/*. These SSDs are designed for write-intensive applications such as High Performance Computing (HPC), Big Data Analytics, Data Warehousing, Database Logging, Media Editing, and Indexing, with a heavy workload comprised of a 50/50 read/write mix. This SSD offers 25 full drive writes per day (DWPD) with a limited 5 year warranty⁴.

Lightning Ultra Gen. II SAS SSDs are a product of SanDisk's vertical integration - spanning from the fabrication of the NAND technology and wafer to the manufacturing of the finished SSD. This vertical integration, results in a customized solution that takes full advantage of each component to deliver maximum performance and quality assurance. Lightning Ultra Gen. II SSDs provide high, predictable performance, industry-leading reliability, and maximum value.

Lightning Ultra™ Gen. II 12Gb/s SAS 2.5" SSDs

200GB - 800GB

Performance/IOPS

Data Throughput (Sequential Read/Write)¹/* Up to 980/740 MB/s

Total IOPS* (Random Read) 4KB - (single port) Up to 199,000 IOPS

Total IOPS* (Random Write) 4KB - (single port) Up to 115,000 IOPS

Interface, Capacity, and Memory Technology

Host Interface 12Gb/s SAS

Interface Ports Dual full-duplex

Form Factor 2.5 inch

19nm SLC User Capacities² 200GB, 400GB, 800GB

Sector Sizes Supported 512, 520, 4K bytes/sector
T10-DIF 1, DIF 2 Support

Reliability

Unrecovered Bit Error Rate (UBER) <1 sector in 10¹⁹ bits read

End-to-End Data Protection No performance impact

Patrol Read (automatic) No performance impact

Power-on Hours 8760 hours per year

MTBF³ 2.5 million hours

Warranty⁴ Lesser of 5 years or maximum endurance used

Endurance

DWPD (Random Read) 25 DWPD

Physical Dimensions

Height (max) 15.0 mm

Width (max) 70.1 mm

Length (max) 100.45 mm

Weight 0.238 Kg

Power Consumption

Idle 3.9 watts

Typical 5.9 watts

Environment

Operating Temperature (ambient) 0 to 60° C

Non-operating Temperature -40 to 85° C

Start-up Time (Power-on to Ready) <15 seconds

Lightning Ultra™ Gen. II 12Gb/s SAS 2.5" SSDs - Ordering Information

Part Number	Capacity
SDLTMDKW-200G-5Cxx	200GB
SDLTMDKW-400G-5Cxx	400GB
SDLTMCKW-800G-5Cxx	800GB

xx - Pack Out Option:

Generic/Sample: A1
10 Pack: 02
Bulk Pack: 03

Specifications subject to change without notice. All specifications are based on an 11W performance level.

* Performance may vary by capacity.

(1) Based on direct attached SAS performance testing, performance may be lower depending upon host device, OS and application.

(2) 1 gigabyte (GB) = 1 billion bytes. Some capacity not available for data storage.

(3) MTBF - Mean Time Between Failures based on parts stress analysis.

(4) The earlier of (I) five (5) years or (II) the time at which such Product unit's total cumulative data recorded on such unit at its S.M.A.R.T. attribute (log page 2Fh, parameter 25) or log page 11h, parameter 1 (Percentage Used Endurance Indicator) reaches 100% of the Product unit's endurance value. For more warranty information, please visit kb.sandisk.com.

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Contact information

datacentersales@sandisk.com

Western Digital Technologies, Inc.

951 SanDisk Drive
Milpitas, CA 95035-7933, USA
T: 1-866-744-2165

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