



12Gb/s SAS Enterprise 2.5" SSDs

Lightning Ascend™ Gen. II SAS SSDs

Maximum bandwidth with high speed data transfer rates where quick access to data is essential

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
- Maximum bandwidth for high speed data transfer rates
- Complete vertical integration

Mixed-Use Application Workloads

- On-Line Transaction Processing (OLTP) Databases
- Financial Transactions
- E-Commerce
- Email/Messaging
- Virtual Desktop Infrastructure (VDI)
- Collaboration

The Lightning Ascend™ 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 Ascend Gen. II SAS SSDs offer superior reliability with high speed data transfer rates where quick access to data is essential. Available in 19nm eMLC capacities from 200GB - 1.6TB² and with random read/write performance of up to 195K/100K IOPS* and sequential read/write speed of up to 980/600 MB/s!*. These SSDs are designed for mixed-use applications such as On-line Transaction Processing (OLTP) Databases, Email/Messaging, E-Commerce, Virtual Desktop Infrastructure, and Collaboration with a typical workload comprised of a 70/30 read/write mix. This SSD offers 10 full drive writes per day (DWPD) with a limited 5 year warranty⁴.

Lightning Ascend 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 Ascend Gen. II SSDs provide high, predictable-performance, industry-leading reliability and maximum value.

Lightning Ascend™ Gen. II 12Gb/s SAS 2.5" SSDs**200GB - 1.6TB****Performance/IOPS**

Data Throughput (Sequential Read/Write)¹/*	Up to 980/600 MB/s
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Total IOPS* (Random Read) 4KB - (single port)	Up to 195,000 IOPS
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Total IOPS* (Random Write) 4KB - (single port)	Up to 100,000 IOPS
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Interface, Capacity, and Memory Technology

Host Interface	12Gb/s SAS
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Interface Ports	Dual (x2 wide) full-duplex
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Form Factor	2.5 inch
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19nm eMLC User Capacities²	200GB, 400GB, 800GB, 1.6TB
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Sector Sizes Supported	512, 520, 4K bytes/sector T10-DIF 1, DIF 2 Support
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Reliability

Unrecovered Bit Error Rate (UBER)	<1 sector in 10 ¹⁸ bits read**
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End-to-End Data Protection	No performance impact
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Patrol Read (automatic)	No performance impact
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Power-on Hours	8760 hours per year
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MTBF³	2.5 million hours
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Warranty⁴	Lesser of 5 years or maximum endurance used
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Endurance

DWPD (Random Read)	10 DWPD
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Physical Dimensions

Height (max)	15.0 mm
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Width (max)	70.1 mm
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Length (max)	100.45 mm
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Weight	0.238 Kg
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Power Consumption

Idle	3.9 watts
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Typical	5.9 watts
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Environment

Operating Temperature (ambient)	0 to 60° C
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Non-operating Temperature	-40 to 85° C
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Start-up Time (Power-on to Ready)	<15 seconds
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Lightning Ascend™ Gen. II 12Gb/s SAS 2.5" SSDs - Ordering Information

Part Number	Capacity
SDLTODKM-200G-5Cxx	200GB
SDLTODKM-400G-5Cxx	400GB
SDLTODKM-800G-5Cxx	800GB
SDLTOCKM-016T-5Cxx	1.6TB

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 recoverable error in 10¹⁸.

(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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