



12Gb/s SAS Enterprise 2.5" SSDs

## Lightning Eco™ Gen. II SAS SSDs

Maximize bandwidth with low latency read speeds for the highest, most cost-effective performance

### Features

- Full data path protection, End-to-end T10-DIF support
- Temperature-based performance control
- MTBF - 2.5 Million Hours<sup>3</sup>
- 5 Year Warranty<sup>4</sup>

### Benefits

- High, Predictable Performance
- Industry-leading Reliability
- Highest Cost-to-performance value
- Low latency data access for high quality of service (QoS)
- Maximum bandwidth for high speed data transfer rates

### Read-Intensive Application Workloads

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

The Lightning Eco™ Gen. II 12Gb/s SAS SSD 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 custom controller and 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 Eco™ Gen. II SAS SSDs offer solid I/O cost to performance benefits with low latency data access for high quality of service (QoS). Available in 19nm eMLC capacities from 800GB - 1.6TB<sup>2</sup> and with random read/write performance of up to 195K/80K IOPS\* and sequential read/write speed of up to 980/600 MB/s<sup>1</sup>/\*. These SSDs are designed for read-intensive applications such as Data Warehousing, Media Streaming, Video on Demand (VOD), Web-based Applications, Virtual Tape Libraries (VTL) and File Servers, with a heavy read workload comprised of a 90/10 read/write mix. This SSD offers 3 full drive writes per day (DWPD) with a limited 5 year warranty<sup>4</sup>.

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

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

800GB - 1.6TB

### Performance/IOPS

**Data Throughput (Sequential Read/Write)<sup>1</sup>/\*** Up to 980/600 MB/s

**Total IOPS\* (Random Read) 4KB - (single port)** Up to 195,000 IOPS

**Total IOPS\* (Random Write) 4KB - (single port)** Up to 80,000 IOPS

### Interface, Capacity, and Memory Technology

**Host Interface** 12Gb/s SAS

**Interface Ports** Dual full-duplex

**Form Factor** 2.5 inch

**19nm eMLC User Capacities<sup>2</sup>** 800GB, 1.6TB

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

### Reliability

**MLC Page Pairing Protection** No risk of data loss

**Unrecovered Bit Error Rate (UBER)** <1 sector in 10<sup>17</sup> bits read

**End-to-End Data Protection** No performance impact

**Patrol Read (automatic)** No performance impact

**Power-on Hours** 8760 hours per year

**MTBF<sup>3</sup>** 2.5 million hours

**Warranty<sup>4</sup>** Lesser of 5 years or maximum endurance used

### Endurance

**DWPD (Random Read)** 3 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 Eco™ Gen. II 12Gb/s SAS 2.5" SSDs - Ordering Information

Part Number	Capacity
SDLTODKR-800G-5Cxx	800GB
SDLTOCKR-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) 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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At SanDisk, we're expanding the possibilities of data storage. For more than 25 years, SanDisk's ideas have helped transform the industry, delivering next generation storage solutions for consumers and businesses around the globe.

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