Optimus Eco™ SAS SSDs

Cost-effective storage for mixed-use and read-intensive workloads with excellent performance.

Features

- 3 Full Random DWPD****
- Five Year Warranty****
- Data integrity - BER 10⁻¹⁸
- FlashGuard - Enhances Flash Endurance
- DataGuard - Ensures Data Integrity
- EverGuard - Reliable 24x7 operation

Mixed-Use (400GB - 1.6TB) Applications Workloads

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

Read-Intensive (2TB) Application Workloads

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

The Optimus Eco™ SSD from SanDisk® ushers in a new era of flash storage bringing together a combination of high performance, capacity, endurance and reliability, while using cost-effective 19nm eMLC flash. This combination makes the Optimus Eco SSD the ideal solution for a wide variety of mixed-use application workloads such as On-line Transaction Processing (OLTP), Financial Transactions, and E-mail/Messaging, and read-intensive application workloads such as Web Servers, Video on Demand (VOD) and Web-based Applications. The Optimus Eco can be deployed by Cloud service providers or hyper-scale data centers, in existing directly attached, SAN, and NAS storage architectures.

Available in capacities of 400GB - 2TB*, the Optimus Eco SSD provides random read/write performance up to 90K/35K IOPS and sequential read/write data transfer rates of up to 530/530 MB/s**. The Optimus Eco SSD is dual ported with 1GB/s Read/800 MB/s Write in active/active operation for sequential read/write performance. The Optimus Eco SSD provides 3 random DWPD****. Optimus Eco SSDs have a 5 year warranty****.

Guardian Technology™ Platform

Optimus Eco SAS SSDs are powered by SanDisk’s proprietary Guardian Technology Platform, a comprehensive suite of enterprise features comprised of 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 commercial-grade 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. Optimus Eco SAS SSDs are designed for I/O intensive, mission-critical, 24/7 applications.
**Optimus Eco™ 2.5" SAS SSDs**

### Performance

**Interface**

6Gb/s SAS

**Interface Ports**

Dual

**Sequential Read/Write (MB/s)**

Up to 530/530 MB/s per port/
1 GB/s Read/800 MB/s Write in Active/Active operation

**Random Read/Write (IOPS)**

Up to 90K/35K IOPS

**Capacity**

19nm eMLC User Capacities*

400GB, 800GB, 1.6TB, 2TB

**Reliability**

**Sector Sizes**

512, 520, 528 byte

**Data Reliability (BER)**

1 unrecoverable error in 10^8 bits read******

**MTBF***

2.5M hours

**Data Fail Recovery**

F.R.A.M.E. (Flexible Redundant Array of Memory Elements)

**Power Fail Recovery**

EverGuard Technology: Backup Power Circuitry

**Data Path Protection**

DataGuard Technology, T10 DIF

**Warranty****

The lesser of 5 years or maximum endurance used

**Endurance**

**Random workload****

3 DWPD

**Power**

**Vcc**

5V/12V

**Active (Typ)**

7W

**Environmental**

**Shock**

1000 g half-sine, 0.5 msec, 3 shocks along each axis, X, Y, Z, in each direction

**Vibration**

2.17 g rms, 7-800 Hz

**Operating Temperature**

0° C to 70° C

**Storage Temperature**

-40° C to 90° C

**Humidity**

5% to 95%, non-condensing, relative humidity

**Altitude**

5486.4 m (18,000 ft)

**Mechanical**

**Length**

100.20 mm

**Width**

69.85 mm

**Height**

9.5/15 mm

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### Optimus Eco 2.5" SAS SSDs - Ordering Information

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Capacity</th>
</tr>
</thead>
<tbody>
<tr>
<td>SDLKODDR-400G-5Cxx</td>
<td>400GB</td>
</tr>
<tr>
<td>SDLKOCDR-800G-5Cxx</td>
<td>800GB</td>
</tr>
<tr>
<td>SDLLOCDR-016T-5Cxx</td>
<td>1.6TB</td>
</tr>
<tr>
<td>SDLLOCDR-020T-5Cxx</td>
<td>2TB</td>
</tr>
</tbody>
</table>

**xx** - Pack Out Option:

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

Specifications subject to change without notice.

1 GB = 1000x1000x1000 bytes. Actual user capacity less.

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.

******1 recoverable error in 10^9

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

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

(3) As measured by the internal sensor

(4) 2TB endurance specified at 1 DWPD for random workload.

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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.