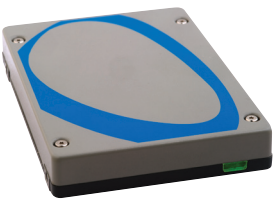


SanDisk® Lightning® 6Gb SAS Enterprise Solid State Drives (SSDs)



Delivers greater than 100 times the performance of other high RPM HDDs



LIGHTNING 6Gb SAS ENTERPRISE SOLID STATE DRIVES (SSDs)

2.5-inch SLC Models

- ▶ LB 406S (400GB)
- ▶ LB 206S (200GB)

2.5-inch MLC Models

- ▶ LB 806M (800GB)
- ▶ LB 406M (400GB)
- ▶ LB 206M (200GB)

Single-Level Cell (SLC)

- ▶ Higher performance
- ▶ Higher reliability

Multi-Level Cell (MLC)

- ▶ High performance
- ▶ Greater capacity
- ▶ Lower price

Increase Data Transfer with Lightning Fast Speed

The challenges for predictable performance and increased storage capacity are ever present in today's data centers. Managers are tasked to satisfy demand without new IT capital investment or the cost of increasing floor space. Enterprise solid state drives (SSDs) are altering the footprint and performance of traditional hard disk drives at a rapid pace. This enables IT service providers to replace hundreds if not thousands of HDDs with a single SSD. This creates a more efficient and reliable network while reducing capital expenditures, space and energy consumption. Lightning SSDs rank among the most competitive solutions in the industry, offering unmatched speed with a history of successful implementations into existing IT infrastructures.

The newest generation of SanDisk Enterprise Lightning 6Gb Solid State Drives (SSDs) are provided as SLC or MLC NAND flash memory and range in capacity from 200GB to 800GB with a SAS (Serial Attached SCSI) interface to fit a range of storage and server systems requirements.

Lightning SSDs deliver the industry's highest sustained performance with the most predictable performance profile across a wide range of workloads, while minimizing the risk of data loss and eliminating the use of write cache. Based on an advanced parallel processing architecture and innovative controller, Lightning SSDs provide high I/O performance with very low response times under peak conditions. Lightning SSDs have been designed to meet 24/7 applications.

Lightning SSDs Provide Design Flexibility with Predictable Performance

Feature	Benefit
Single Firmware Binary	All Lightning 6Gb SSDs have the same firmware binary, controller, and hardware. This reduces the time for customer qualification and time to market.
Write-Through Logging	Provides high performance across different workloads. This eliminates volatility that would otherwise need to be protected with battery backup or super capacitors. WTL operation is completely transparent to the host
End-to-End Protection	Lightning SSDs support T10 DIF, when used with systems that implement T10 DIF, allows all data in flight to contain additional error correcting information ensuring no errors are introduced.
Background Patrol Read	Lightning SSDs check and correct errors caused by program/read disturbs in the background with no impact on performance.
No Write Limits	Lightning SLC NAND SSDs do not impose a daily limit on the amount of writes.
No Mechanical Wear and Tear	Based on solid state technology, SSDs also deliver significantly higher reliability and lower failure rates than mechanical spinning hard disk drives.

SanDisk®

ENTERPRISE
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Lightning® 6Gb SAS Enterprise SSDs – Product Specifications

Interface, Capacity, and Memory Technology

	LB 406S	LB 206S	LB 806M	LB 406M	LB 206M
Host Interface	6Gb SAS				
Interface Ports	Dual (2) full duplexes				
Form Factor	2.5-inch				
User Capacities ¹	400GB	200GB	800GB	400GB	200GB
Sector Sizes Supported	512 or 520 bytes/sector				
Flash Memory Technology	SLC NAND		MLC NAND		

Performance (Typical)

	LB 406S	LB 206S	LB 806M	LB 406M	LB 206M
Data Throughput (Read) ²	Up to 420 MB/s	Up to 350 MB/s	Up to 360 MB/s	Up to 300 MB/s	Up to 320 MB/s
Total IOPS (Read)	120,000 IOPS	105,000 IOPS	110,000 IOPS	95,000 IOPS	95,000 IOPS
4KB 70/30 (single port)	39,000 IOPS	30,000 IOPS	24,000 IOPS	21,000 IOPS	16,000 IOPS
8KB 70/30 (single port)	27,000 IOPS	21,000 IOPS	18,000 IOPS	15,000 IOPS	12,000 IOPS

Reliability

Reliability	LB 406S	LB 206S	LB 806M	LB 406M	LB 206M
No Write Cache	No risk of data loss				
Read Endurance	Unlimited				
Write Endurance	Unlimited		14.4 PB	7.2 PB	3.6 PB
MLC Page Pairing Protection	Not applicable		No risk of data loss		
Unrecovered Error Rate	<1 sector in 1 E10-17 bits read		<1 sector in 1 E10-16 bits read		
End-to-End Data Protection	No performance impact				
Patrol Read (automatic)	No performance impact				
Power-on Hours	8760 hours per year				
MTBF ³	2 million hours				
Lifetime	>5 years		5 years		

Physical Dimensions

	LB 406S	LB 206S	LB 806M	LB 406M	LB 206M
Height (max)	15.0 mm				
Width (max)	70.1 mm				
Length (max)	100.45 mm				
Weight	0.238 Kg				

Power Consumption

	LB 406S	LB 206S	LB 806M	LB 406M	LB 206M
Idle	3.9 watts				
Typical	5.9 watts				

Environment

	LB 406S	LB 206S	LB 806M	LB 406M	LB 206M
Operating Temperature (ambient)	0 to 60° C				
Non-operating Temperature	-40 to 85° C				
Start-up time (Power-On to Ready)	<15 seconds				

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Specifications are preliminary and subject to change.

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

² Based on internal testing, performance may be lower depending upon host device, OS and application.

³ MTBF – Mean Time Between Failures based on parts stress analysis.

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