

SSDs for Data Centers: Accelerated Performance with Exceptional Reliability

SM843 Pro Data Center Series



IT organizations face some big challenges when their volume, velocity and variety of data exceed storage and computing capacity. To address these issues, CIOs and IT managers focus on finding the optimal solutions to maximize and streamline their storage in the data center.

Avoiding performance bottlenecks is a critical consideration when evaluating storage alternatives to support extended access to data and applications. For several years, hard disk drives (HDDs) have been a common storage technology mainstay. However, HDD performance is limited by the rotational speed of the disk, which results in storage bottlenecks for I/O-intensive applications and the wear and tear of moving mechanical parts contribute to drops in HDD reliability are some of the key reasons why IT management are investing in solid-state technology.

Solid-state drives (SSDs) address the need for maximum performance, thus narrowing the gap between server and storage performance. No more rotating magnetic media. SSDs drives write data onto the integrated circuits of nonvolatile NAND flash memory and because SSDs have no moving parts, they are not subject to the mechanical constraints of HDDs.

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To help IT organizations maximize data center performance and reliability in the face of tremendous data growth, Samsung has introduced the new SM843 high-performance storage solution. Samsung new SM843 accelerated performance SSDs consume up to 79 percent less energy and perform random read/write operations on average up to 60 times faster than conventional HDDs.

Whether it's social media in the cloud, SQL database logs, system booting, virtualization, video on demand, online transaction processing (OLTP), and other various data center applications, Samsung SM843 SSDs offers an accelerated performance solution with controlled latency and exceptional endurance and reliability over similar-class SSDs. Samsung SM843 SSDs are available in densities from 120–480 GB, making it easy and the most performance optimized solution to scale up the internal storage capacity of servers.

Investing in Samsung SM843 SSDs supports the demands of read and write-intensive workloads—elevating performance and energy efficiency in the data center while helping to reduce total cost of ownership and environmental impact.

Rapid Data Access

The flash storage of Samsung SM843 SSDs boosts performance by enabling fast access to data, with high-levels of sequential reads up to 530 MB/s, sequential writes up to 420 MB/s over similar-class SSDs, and random reads up to 70,000 IOPS, and random writes up to 11,500 IOPS.

Exceptional Reliability

Samsung SM843 SSDs use specially engineered NAND flash memory to augment write endurance, up to 1,060 Terabytes Written (TBW) in a random workload environment, providing **more than 18 times** the endurance of similar-class SSDs. This translates into long-lasting, sustained performance for your servers and enables outstanding reliability through wear-leveling and garbage-collection algorithms.

Power Savings

Because it has no moving parts, Samsung SM843 SSD storage consumes up to 79 percent less energy than HDD storage—optimizing both energy utilization and performance.



For more information, visit:
www.samsung.com/flash-ssd

For specific sales inquiries, contact us via
email at: ssd@ssi.samsung.com

SM843 Pro Data Center Series High-Read & Write Environments	
Form Factor	2.5 inches
Capacity	120/240/480 GB
Host Interface	Serial ATA 3 (6 Gb/s)
MTBF	2,000,000 hours
Uncorrectable Bit Error Rate (UBER)	1x10 ¹⁷
Power Consumption (Active)	3.4 W
Power Consumption (Idle)	300 mW
Random Read	Up to 70,000 IOPS
Random Writes	Up to 11,500 IOPS
Random Terabytes Written (TBW)	Up to 1,060 TBW Up to 1 WPD*
Sequential Read	Up to 530 MB/s
Sequential Writes	Up to 420 MB/s
Sequential Terabytes Written (TBW)	Up to 4,200 TBW Up to 5 WPD*
Physical Dimensions	100 x 70 x 7mm
Weight	56g

*WPD = Drive Writes Per Day for 5 Years



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