

Breaking the Barriers: Data Center MLC-class SSD High-Performance, Consistently Low Latency and Extreme Write Endurance

Data Center Series (SM843T/SV843)



Today, more and more data centers are embracing extremely fast, energy-efficient IT systems and system components, to better support the client and server markets, along with the virtual and cloud enterprise infrastructure behind them.

IT management are driving today's business transformation initiatives, Big Data systems, VDI and other high-performance enterprise platforms in cloud infrastructures, rack-designed systems and virtualized environments. Increasingly, investments in solid state drive (SSD) technology are streamlining storage and computing capacity in the data center.

Samsung has released SM843T and SV843 SSDs, utilizing MLC NAND Flash, which feature consistently low latency, high-level of sustained writes (IOPS), high-write endurance, coupled with power-loss protection—all at capacities up to 960GB.

Samsung SM843T/SV843 Raise the Bar on Data Center SSDs

Here are more details about this new drive's outstanding features:

Exceptional Low Latency and a Workhorse of a Drive

Unlike conventional SSDs in their category, which provide very good performance at the onset, as more write operations are made to other SSDs, the latency and QoS typically suffer. On the other hand, Samsung's SM843T and SV843 SSDs deliver an exceptionally consistent level of performance (99.9% of reads at 170µs) over the life of the SSD at the same price category as other consumer-based MLC-based offerings.

The Samsung SM843T and SV843 are optimized for **sustained** random read and write workloads (89,000 IOPS/14,000 IOPS).

High-Write Endurance

The life of a drive is generally determined by such factors as the type of applications and workloads that are being used. The

Samsung SM843T is optimized for random write workloads up to 1.8 full drive writes per day (WPD) and up to 3.6 WPD with the SV843 SSD which represents a 12x improvement over competitive offerings.

Enterprise Power-Loss Protection

Samsung SM843T and SV843 SSDs are built with tantalum capacitors to protect all of your data in write cache in the case of a power failure. This enterprise-grade power-loss protection provides an added level of security to ensure that valuable write information is well protected against data corruption caused by power-loss.

High-Capacity SSDs Available

Samsung SM843T and SV843 SSDs are available in several densities, allowing you to maximize your capacity with the same number of drive slots. The drive processes 14,000 IOPS on writes all the way up to 960GB—over 7x the density over a 128GB SSD.

Data Center Series (SM843T/SV843) | High-Read & Write Environments

		SM843T	SV843
General Features	Form Factor	2.5", 1.8"	2.5"
	Capacity (GB)	120/240/480	960
	Host Interface	SATA Gen 3.0 – 6Gb/s	
	Physical Dimensions	2.5": 100 x 70 x 7mm 1.8": 80 x 54 x 5mm	2.5": 100 x 70 x 7mm
	Weight (up to)	56g	62g
	MTBF	2,000,000 hours	
	Uncorrectable Bit Error Rate (UBER)	1 in 10 ¹⁷	
	Encryption	Class 0 (AES-256)	
	Power Consumption (Active/Idle)	4.0/1.1 W	2.6/1.0 W
Sustained Performance (up to)	Read Latency (99.9% QoS)*	170 µs	
	Write Latency (99.9% QoS)*	<3 ms (28% O/P: <500 µs)♦	
	4K Random Reads**	89,000 IOPS	
	4K Random Writes**	14,000 IOPS (28% O/P: 35,000 IOPS)♦	
	64K Sequential Reads**	530 MB/s	
	64K Sequential Writes**	360 MB/s	430 MB/s
Endurance (up to)	4K Random WPD	1.8 WPD *** (28% O/P: 5.4 WPD)♦	3.6 WPD *** (28% O/P: 10.5 WPD)♦
	64K Sequential WPD	11 WPD ***	22 WPD ***



For more information, visit:
www.samsung.com/flash-ssd
 For specific sales inquiries, contact us via email at:
ssd@ssi.samsung.com

- * Latency measured with FIO (4K Random, QD=8)
- ** Performance measured using IOMeter 2006 with Queue Depth=32
- *** WPD = Drive Writes Per Day for 5 Years
- ♦ When over provisioning usable drive capacity to 100/200/400/800GB



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