



SATA SSD



SATA 6Gbps SSD **SDS1B** Series

430MB/s ultrafast SSDs that sustain the age of 4K/8K broadcasting. High-definition/large-volume data recorded at once.

The establishing and upgrading of broadcasting and telecommunications systems are accelerating for the commencement of 4K / 8K broadcasting expected by 2018. SSDs, which can instantly record high-definition / large-volume data and play it in real time, have particularly become adopted as storage media. The TDK SDS1B series consists of ultrafast SSDs equipped with the GBDriver GS1. The internals of the GS1 have a large buffer to achieve 430MB/sec in reading and 325MB/sec in writing. It is an optimal SSD for clear and contiguous next-generation data broadcast systems with high-speed access at 365MB/sec in reading and 235MB/sec in writing even during MLC flash mounting.



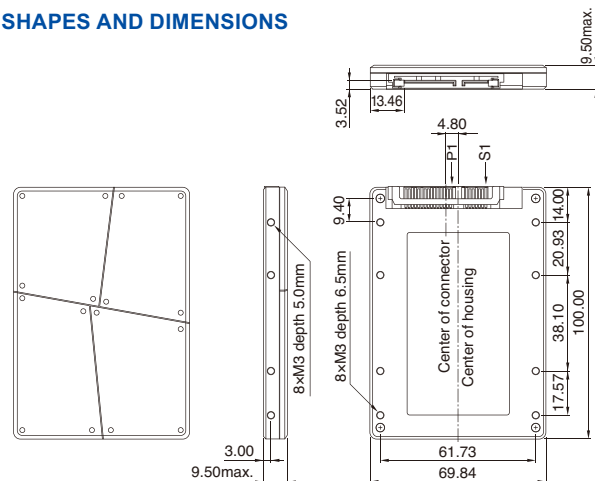
Basic Characteristics/Ratings

Data capacity	16GB to 128GB
Power supply voltage	5.0V ± 10%
Ambient operating temperature	0 to +70°C (-40 to +85°C)
Ambient storage temperature	-25 to +85°C (-40 to +85°C)
Current consumption	320mA max. (5.0V in Read) 600mA max. (5.0V in Write) less than 70mA (5.0V in Slumber)
Shock resistance	1,000G
Vibration resistance	15G

□ FEATURES

- Employed TDK SSD Controller GBDriver GS1. (Designed by us and domestically-manufactured)
- Employed 8KB/page (SLC), 16KB/page (pSLC, MLC) NAND type flash memory. (Domestically-manufactured)
- Compatible with Serial ATA Standard Rev.3.1 (Gen 1: 1.5Gbps/Gen 2: 3.0Gbps/Gen 3: 6.0Gbps).
- Equipped with 71bit/1KByte ECC (BCH) (SLC). Equipped with 44bit/1KByte ECC (BCH) (pSLC, MLC).
- Equipped with TDK global static wear leveling function (TDK SMART SWAP).
- Equipped with a data randomizer function and an auto refresh function.
- Equipped with a read retry function.
- Equipped with NCQ (Native Command Queuing).
- SSD life monitor software (TDK SMART) is included.
- Equipped with AES 128/256bit (Advanced Encryption Standard) encryption function (CBC mode).
- Equipped with a total sector number setting function (including clipping function).
- Equipped with ATA standard security function and original password authentication function.
- Support ATA Trim command (complete data erasing function).
- Technical support by dedicated FAE is available.
- Complies with RoHS directives.

□ SHAPES AND DIMENSIONS



Dimensions in mm

□ CHARACTERISTICS

Series	SDS1B Series
Data capacity	16GB/32GB/64GB/128GB [SLC] 16GB/32GB/64GB/128GB/256GB [pSLC] 32GB/64GB/128GB/256GB/512GB [MLC]
Form factor	2.5-inch SATA
Memory type	SLC (Single Level Cell) NAND type Flash Memory (8KB/Page) pSLC NAND type Flash Memory (16KB/Page) MLC (Multi Level Cell) NAND type Flash Memory (16KB/Page)
Controller	TDK GBDriver GS1
Interface	Serial ATA Revision 3.1
Transfer mode	SATA Gen1 : 1.5Gbps, Gen2 : 3.0Gbps, Gen3 : 6.0Gbps
Transfer speed*	Read (max.) 420MB/s (SLC), 430MB/s (pSLC), 365MB/s (MLC) Write (max.) 305MB/s (SLC), 325MB/s (pSLC), 235MB/s (MLC)
Error check and correction (ECC)	71bit/1KByte (SLC 16GB~128GB) 44bit/1KByte (pSLC 16GB~256GB, MLC 32GB~512GB)
Power supply voltage	5.0V±10%
Vibration resistance	15G
Shock resistance	1,000G
Ambient operating temperature	0 to +70°C [-40 to +85°C Industrial Option]
Ambient storage temperature	-25 to +85°C [-40 to +85°C Industrial Option]
Storage / operating humidity	0 to 90(%) RH [No condensation]
Conformed standards	CE/FCC/VCCI
Environmental specifications	RoHS compliant

* In 4ch 4way mode, measured by CrystalDiskMark 3.0 (speed for SLC model with 64GB or greater capacity, pSLC model with 128GB or greater capacity, and MLC model with 256GB or greater capacity). The speed may vary depending on the actual use environment/conditions.

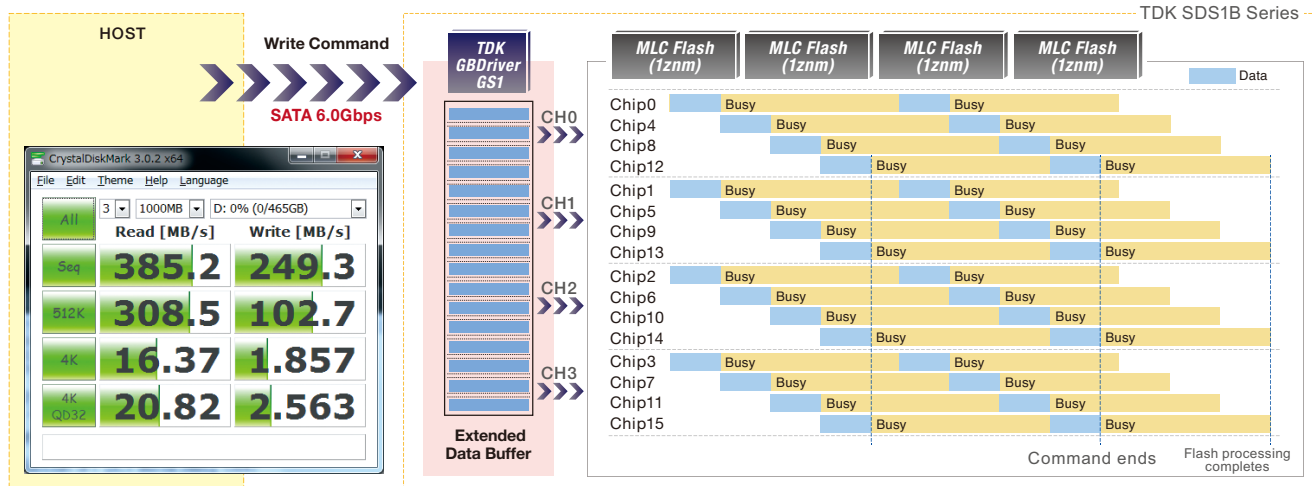
□ ENDURANCE (Expected P/E cycles)

	Data Capacity	Part No.	Expected endurance (Unit: million times)	Allowable accesses per second according to age of equipment (When operating 24 hrs/d, 365 ds/yr)		
				1 year	5 years	10 years
SLC	16GB	SDS1B016GTXDCB00SSA0	1,576	49.97	9.99	5.00
	32GB	SDS1B032GTXECB00SSA0	3,152	99.95	19.99	9.99
	64GB	SDS1B064GTXFCB00SSA0	6,304	199.90	39.98	19.99
	128GB	SDS1B128GTXFCB00SSA0	12,608	399.80	79.98	39.98
pSLC	16GB	SDS1B016GTKDCB00SSA0	158	5.00	1.00	0.50
	32GB	SDS1B032GTKDCB00SSA0	315	9.99	2.00	1.00
	64GB	SDS1B064GTKECB00SSA0	630	19.99	4.00	2.00
	128GB	SDS1B128GTFKCB00SSA0	1,261	39.98	8.00	4.00
MLC	256GB	SDS1B256GTFKCB00SSA0	2,522	79.96	16.00	8.00
	32GB	SDS1B032GTFDCB00SSA0	23	0.75	0.15	0.07
	64GB	SDS1B064GTFDCB00SSA0	47	1.50	0.30	0.15
	128GB	SDS1B128GTFECB00SSA0	94	3.00	0.60	0.30
	256GB	SDS1B256GTFECB00SSA0	189	6.00	1.20	0.60
	512GB	SDS1B512GTFECB00SSA0	378	12.00	2.40	1.20

* The above products have an ambient operating temperature of 0 to +70°C. For products with an ambient operating temperature of -40 to +85°C, convert the blue letter "C" in the product name to "W".

(Example: SDS1B016GTXDCB00SSA0 [0 to +70°C product]
⇒ SDS1B016GTXDWB00SSA0 [-40 to +85°C product])

□ Realizes high-speed writing even with MLC flash memory by a large buffer



Please be sure to request delivery specifications that provide further details on the features and specifications of the products for proper and safe use. Please note that the contents may change without any prior notice due to reasons such as upgrading.