



Features

- TOSHIBA BiCS Flash™ (3D-NAND) technology
- Built with DRAM cache
- Support Trim command set
- Support Native Command Queuing (NCQ)
- Support S.M.A.R.T. command set and utility
- Support LDPC (Low Density Parity Check) ECC algorithm.
- Ultra-high random read/write speed
- Capacities from 128GB up to 1TB

Specification

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|--|---|
| <ul style="list-style-type: none"> ■ Compatibility
SATA Revision 3.2
ATA-8 ACS4 command set ■ Declarations
RoHS & REACH compliant ■ Flash technology
3D-NAND flash technology ■ Form-factor
Standard mSATA form factor
Compliant with JEDEC MO-300A
mini PCI-e connector with 52 pins SATA pin out ■ Host Interface ■ Performance <ul style="list-style-type: none"> ➤ Data transfer rate
SATA 1.5Gb/s, 3.0Gb/s, 6.0Gb/s ➤ Sequential read
560 MB/sec (Max.) ➤ Sequential write
520 MB/sec (Max.) ➤ 4KB random read
67K IOPS (Max.) ➤ 4KB random write
67K IOPS (Max.) ■ Environmental <ul style="list-style-type: none"> ➤ Operating temp.
STD. 0°C~+70°C/W.T. -40°C~+85°C ➤ Non-operating temp
STD. -20°C~+80°C/W.T. -50°C~+95°C ➤ Humidity
10% ~ 95% non-condensing ➤ Vibration
70 Hz to 2K Hz, 20G, 3 axes | <ul style="list-style-type: none"> ➤ Shock
0.5ms, 1500G, 3 axes ➤ Altitude
70,000 feet ■ Power consumption ➤ Power requirement
+3.3V ± 5% ➤ Reading mode
624.5 mA (Max.) ➤ Writing mode
799.8 mA (Max.) ➤ Idle mode
214.2 mA (Max.) ■ Reliability <ul style="list-style-type: none"> ➤ Wear-leveling
Static wear-leveling algorithms
Up to 2,663 TBW at 1TB Capacity
(Client workload by JESD-219A) ➤ TBW
Up to 3,000 times
LDPC (Low Density Parity Check) ➤ Erase counts
Up to 3,000 times ➤ ECC
LDPC (Low Density Parity Check) ■ Physical specification <ul style="list-style-type: none"> ➤ Weight (Max.)
8g ➤ Dimension (WxL)
29.85 x 50.80 (mm) ■ Conformal coating
Optional ■ Warranty
2 years or within 3,000 erasing counts |
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Part Number List

Capacity	0°C~+70°C	Capacity	-40°C~+85°C
128GB	SBMSR128G-VECT3	128GB	WBMSR128G-VECT3-C
256GB	SBMSR256G-VECT3	256GB	WBMSR256G-VECT3-C
512GB	SBMSR512G-VECT3	512GB	WBMSR512G-VECT3-C
1TB	SBMSR001T-VECT3	1TB	WBMSR001T-VECT3-C

Part Number Decoder

X1	X2	X3	X4	X5	X6	X7	X8	X9	X10	X11	X12	X13	X14	X15	X16	X17	X18	X19	X20
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Example

W	B	M	S	R	0	0	1	T	-	V	E	C	T	3	-	C			
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X1 Grade

S : Standard grade operating temp. 0°C~+70°C
W : Wide temp. grade operating temp. -40°C~+85°C

X2 The material of casing

B : Bare (without casing)

X3 X4 X5 Product category

MSR : Mini SATA Module (mSATA) w/ DRAM cache

X6 X7 X8 X9 Capacity

128G : 128GB 512G : 512GB
256G : 256GB 001T : 1TB

X11 Controller

V : MUSE Series

X12 Controller version

A, B, C, D....

X13 Controller grade

C : Commercial grade

X14 Flash IC brand

T : Toshiba NAND flash IC

X15 Flash IC type

3 : BiCS 3D-NAND Flash IC

X17 X18 X19 X20 Reserved for specific requirements

C : Conformal coating (optional)

SLC
oSLC
MLC
3D-NAND
DRAM Module
Adapter
Card-drive