



Features

- MLC-NAND flash technology
- Support Trim command set
- Support Native Command Queuing (NCQ)
- Support LDPC (Low Density Parity Check) ECC algorithm
- Support S.M.A.R.T. command set and utility
- Support Power Loss Protection
- Capacities from 16GB 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 MLC-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 550 MB/sec (Max.) ➤ Sequential write 490 MB/sec (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 80 Hz to 2K Hz, 20G, 3axes ➤ Shock 0.5ms, 1500G, 3 axes ➤ Altitude 70,000 feet | <ul style="list-style-type: none"> ■ Power consumption <ul style="list-style-type: none"> ➤ Power requirement +3.3 V ± 5% ➤ Reading mode 1,650 mW (Max.) ➤ Writing mode 2,690 mW (Max.) ➤ Idle mode 285 mW (Max.) ■ Reliability <ul style="list-style-type: none"> ➤ Wear-leveling Static and Dynamic wear-leveling algorithms ➤ TBW Up to 1,080 TBW at 1TB Capacity (Client workload by JESD-219A) ➤ 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
16GB	SBMSM016G-PKCTM-(W/T/WT)	16GB	WBMSM016G-PKCTM-(W/T/WT)C
32GB	SBMSM032G-PKCTM-(W/T/WT)	32GB	WBMSM032G-PKCTM-(W/T/WT)C
64GB	SBMSM064G-PKCTM-(W/T/WT)	64GB	WBMSM064G-PKCTM-(W/T/WT)C
128GB	SBMSM128G-PKCTM-(W/T/WT)	128GB	WBMSM128G-PKCTM-(W/T/WT)C
256GB	SBMSM256G-PKCTM-(W/T/WT)	256GB	WBMSM256G-PKCTM-(W/T/WT)C
512GB	SBMSM512G-PKCTM-(W/T/WT)	512GB	WBMSM512G-PKCTM-(W/T/WT)C
1TB	SBMSM001T-PKCTM-(W/T/WT)	1TB	WBMSM001T-PKCTM-(W/T/WT)C

Part Number Decoder

X1	X2	X3	X4	X5	X6	X7	X8	X9	X10	X11	X12	X13	X14	X15	X16	X17	X18	X19	X20
W	B	M	S	M	0	0	1	T	-	P	K	C	T	M	-	W	T	C	

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

MSM : Mini SATA Module (mSATA)

X6 X7 X8 X9 Capacity

016G : 16GB 256G : 256GB
032G : 32GB 512G : 512GB
064G : 64GB 001T : 1TB
128G : 128GB

X11 Controller

P : PHANES 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

M : MLC-NAND flash IC

X17 X18 X19 X20 Reserved for specific requirements

Blank : Standard product w/o thermal sensor and conformal-coating
W : Write Protection Switch (optional)
T : Thermal Sensor (optional)
WT : Write Protection Switch + Thermal Sensor (optional)
C : Conformal coating (optional)

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