



**Features**

- MLC-NAND flash technology
- 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 8GB up to 256GB

**Specification**

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| <ul style="list-style-type: none"> <li>■ <b>Compatibility</b><br/>SATA Revision 3.1<br/>ATA-8 command set</li> <li>■ <b>Declarations</b><br/>RoHS &amp; REACH compliant</li> <li>■ <b>Flash technology</b><br/>MLC-NAND flash technology</li> <li>■ <b>Form-factor</b><br/>Standard mSATA form factor<br/>Compliant with JEDEC MO-300A<br/>mini PCI-e connector with 52 pins SATA pin out</li> <li>■ <b>Host Interface</b></li> <li>■ <b>Performance</b> <ul style="list-style-type: none"> <li>➤ <b>Data transfer rate</b><br/>SATA 1.5Gb/s, 3.0Gb/s, 6.0Gb/s</li> <li>➤ <b>Sequential read</b><br/>535 MB/sec (Max.)</li> <li>➤ <b>Sequential write</b><br/>210 MB/sec (Max.)</li> <li>➤ <b>4KB random read</b><br/>32K IOPS (Max.)</li> <li>➤ <b>4KB random write</b><br/>26K IOPS (Max.)</li> </ul> </li> <li>■ <b>Environmental</b> <ul style="list-style-type: none"> <li>➤ <b>Operating temp.</b><br/>STD. 0°C~+70°C/W.T. -40°C~+85°C</li> <li>➤ <b>Non-operating temp.</b><br/>STD. -20°C~+80°C/W.T. -50°C~+95°C</li> <li>➤ <b>Humidity</b><br/>10% ~ 95% non-condensing</li> <li>➤ <b>Vibration</b><br/>70 Hz to 2K Hz, 20G, 3 axes</li> </ul> </li> </ul> | <ul style="list-style-type: none"> <li>➤ <b>Shock</b><br/>0.5ms, 1500G, 3 axes</li> <li>➤ <b>Altitude</b><br/>70,000 feet</li> <li>■ <b>Power consumption</b></li> <li>➤ <b>Power requirement</b><br/>+3.3 V ± 5%</li> <li>➤ <b>Reading mode</b><br/>130mA (Max.)</li> <li>➤ <b>Writing mode</b><br/>200mA (Max.)</li> <li>➤ <b>Idle mode</b><br/>80mA (Max.)</li> <li>■ <b>Reliability</b> <ul style="list-style-type: none"> <li>➤ <b>Wear-leveling</b><br/>Static wear-leveling algorithms</li> <li>➤ <b>TBW</b><br/>Up to 416 TBW at 256GB Capacity<br/>(Client workload by JESD-219A)</li> </ul> </li> <li>➤ <b>Erase counts</b><br/>Up to 3,000 times</li> <li>➤ <b>ECC</b><br/>LDPC (Low Density Parity Check)</li> <li>■ <b>Physical specification</b> <ul style="list-style-type: none"> <li>➤ <b>Weight (Max.)</b><br/>8g</li> <li>➤ <b>Dimension (WxL)</b><br/>29.85 x 50.80 (mm)</li> <li>■ <b>Conformal coating</b><br/>Optional</li> <li>■ <b>Warranty</b><br/>2 years or within 3,000 erasing counts</li> </ul> </li> </ul> |
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**Part Number List**

Capacity	0°C~+70°C	Capacity	-40°C~+85°C
8GB	SBMSM008G-VDCTM-(T)	8GB	WBMSM008G-VDCTM-(T)C
16GB	SBMSM016G-VDCTM-(T)	16GB	WBMSM016G-VDCTM-(T)C
32GB	SBMSM032G-VDCTM-(T)	32GB	WBMSM032G-VDCTM-(T)C
64GB	SBMSM064G-VDCTM-(T)	64GB	WBMSM064G-VDCTM-(T)C
128GB	SBMSM128G-VDCTM-(T)	128GB	WBMSM128G-VDCTM-(T)C
256GB	SBMSM256G-VDCTM-(T)	256GB	WBMSM256G-VDCTM-(T)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	M	2	5	6	G	—	V	D	C	T	M	—	T	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**

MSM : Mini SATA Module (mSATA)

**X6 X7 X8 X9 Capacity**

008G : 8GB      064G : 64GB  
 016G : 16GB    128G : 128GB  
 032G : 32GB    256G : 256GB

**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**  
 M : MLC-NAND flash IC

**X17 X18 X19 X20 Reserved for specific requirements**

Blank : Standard product w/o thermal sensor and conformal-coating  
 T : Thermal Sensor (optional)  
 C : Conformal coating (optional)

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