



**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 Power Loss Protection
- Capacities from 4GB up to 512GB

**Specification**

- |  |   |
|--|---|
| <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/>422 MB/sec (Max.)</li> <li>➤ <b>Sequential write</b><br/>233 MB/sec (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> <li>➤ <b>Shock</b><br/>0.5ms, 1500G, 3 axes</li> <li>➤ <b>Altitude</b><br/>70,000 feet</li> </ul> </li> </ul> | <ul style="list-style-type: none"> <li>■ <b>Power consumption</b> <ul style="list-style-type: none"> <li>➤ <b>Power requirement</b><br/>+3.3 V ± 5%</li> <li>➤ <b>Reading mode</b><br/>245mA (Max.)</li> <li>➤ <b>Writing mode</b><br/>390mA (Max.)</li> <li>➤ <b>Idle mode</b><br/>151mA (Max.)</li> </ul> </li> <li>■ <b>Reliability</b> <ul style="list-style-type: none"> <li>➤ <b>Wear-leveling</b><br/>Static wear-leveling algorithms<br/>Up to 153.6 TBW at 512GB Capacity<br/>(Client workload by JESD-219A)</li> <li>➤ <b>TBW</b><br/>Up to 3,000 times</li> <li>➤ <b>Erase counts</b><br/>40 bits per 1024 bytes block</li> </ul> </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/>29.8 x 50.80 (mm)</li> </ul> </li> <li>■ <b>Conformal coating</b><br/>Optional</li> <li>■ <b>Warranty</b><br/>2 years or within 3,000 erasing counts</li> </ul> |
|--|---|

**Part Number List**

Capacity	0°C~+70°C	Capacity	-40°C~+85°C
4GB	SBMSM004G-JJCTMB-(T)	4GB	WBMSM004G-JJCTMB-(T)C
8GB	SBMSM008G-JJCTMB-(T)	8GB	WBMSM008G-JJCTMB-(T)C
16GB	SBMSM016G-JJCTMB-(T)	16GB	WBMSM016G-JJCTMB-(T)C
32GB	SBMSM032G-JJCTMB-(T)	32GB	WBMSM032G-JJCTMB-(T)C
64GB	SBMSM064G-JJCTMB-(T)	64GB	WBMSM064G-JJCTMB-(T)C
128GB	SBMSM128G-JJCTMB-(T)	128GB	WBMSM128G-JJCTMB-(T)C
256GB	SBMSM256G-JJCTMB-(T)	256GB	WBMSM256G-JJCTMB-(T)C
512GB	SBMSM512G-JJCTMB-(T)	512GB	WBMSM512G-JJCTMB-(T)C

Notes : HERMES-J Series from 4GB to 128GB; HERMES-I Series from 256GB and 512GB

**Part Number Decoder**

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

**Example 1**

W	B	M	S	M	1	2	8	G	-	J	J	C	T	M	B	-	T	C	
---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	--

**Example 2**

W	B	M	S	M	5	1	2	G	-	J	I	C	T	M	B	-	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**

004G : 4GB      064G : 64GB  
008G : 8GB      128G : 128GB  
016G : 16GB     256G : 256GB  
032G : 32GB     512G : 512GB

**X11 Controller**

J : HERMES 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

**X16 MLC Technology**

B : Toshiba 15nm MLC

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