



Features

- MLC-NAND flash technology
- M.2 2242 / 2280 form-factor
- 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
- M.2 2242 capacities from 8GB up to 256GB
- M.2 2280 capacities from 8GB up to 512GB

Specification

- **Compatibility**
SATA Revision 3.2
ATA-8 ACS4 command set
- **Declarations**
RoHS & REACH compliant
- **Flash technology**
MLC-NAND flash technology
- **Form-factor**
M.2 2242-D3-B-M
M.2 2280-D5-B-M
- **Host interface**
Compatible with PCI Express™ M.2 B + M Key
- **Performance**
 - **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**
 - **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

- **Power consumption**
 - **Power requirement**
+3.3V ± 5%
 - **Reading mode**
1,500 mW (Max.)
 - **Writing mode**
2,650 mW (Max.)
 - **Idle mode**
280 mW (Max.)
- **Reliability**
 - **Wear-leveling**
Static and Dynamic wear-leveling algorithms
Up to 540 TBW at 512GB Capacity
(Client workload by JESD-219A)
 - **TBW**
Up to 3,000 times
 - **Erase counts**
LDPC (Low Density Parity Check)
- **Physical specification**
 - **Weight (Max.)**
2242 : 5g
2280 : 8g
 - **Dimension (WxL)**
2242 : 22.00 x 42.00 (mm)
2280 : 22.00 x 80.00 (mm)
- **Conformal coating**
Optional
- **Warranty**
2 years or within 3,000 erasing counts

Part Number List

M.2 2242 SATA Module			M.2 2280 SATA Module		
Capacity	0°C~+70°C	-40°C~+85°C	Capacity	0°C~+70°C	-40°C~+85°C
8GB	SBMDS008G-PKCTM4BM(T)	WBMDS008G-PKCTM4BM(T)C	8GB	SBMDS008G-PKCTM8BM(T)	WBMDS008G-PKCTM8BM(T)C
16GB	SBMDS016G-PKCTM4BM(T)	WBMDS016G-PKCTM4BM(T)C	16GB	SBMDS016G-PKCTM8BM(T)	WBMDS016G-PKCTM8BM(T)C
32GB	SBMDS032G-PKCTM4BM(T)	WBMDS032G-PKCTM4BM(T)C	32GB	SBMDS032G-PKCTM8BM(T)	WBMDS032G-PKCTM8BM(T)C
64GB	SBMDS064G-PKCTM4BM(T)	WBMDS064G-PKCTM4BM(T)C	64GB	SBMDS064G-PKCTM8BM(T)	WBMDS064G-PKCTM8BM(T)C
128GB	SBMDS128G-PKCTM4BM(T)	WBMDS128G-PKCTM4BM(T)C	128GB	SBMDS128G-PKCTM8BM(T)	WBMDS128G-PKCTM8BM(T)C
256GB	SBMDS256G-PKCTM4BM(T)	WBMDS256G-PKCTM4BM(T)C	256GB	SBMDS256G-PKCTM8BM(T)	WBMDS256G-PKCTM8BM(T)C
			512GB	SBMDS512G-PKCTM8BM(T)	WBMDS512G-PKCTM8BM(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 1

W	B	M	D	S	2	5	6	G	—	P	K	C	T	M	4	B	M	T	C
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Example 2

W	B	M	D	S	5	1	2	G	—	P	K	C	T	M	8	B	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

MDS : M.2 SATA SSD

X6 X7 X8 X9 Capacity

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

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

X16 X17 X18 Form-factor type

4 : 2242 form factor
8 : 2280 form factor
BM : B + M Key

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