



Features

- TOSHIBA BiCS Flash™ (3D-NAND) 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 32GB up to 128GB
- M.2 2280 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
M.2 2242-D3-B-M
M.2 2280-D5-B-M ■ Host interface
Compatible with PCI Express™ M.2
B + M Key ■ Performance <ul style="list-style-type: none"> ➤ Data transfer rate
SATA 1.5Gb/s, 3.0Gb/s, 6.0Gb/s ➤ Sequential read
2242 : 550 MB/s (Max.); 2280 : 550 MB/s(Max.) ➤ Sequential write
2242 : 450 MB/s (Max.); 2280 : 500 MB/s(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
+3.3V ± 5% ➤ Reading mode
2242 : 1,230 mW (Max.); 2280 : 1,475 mW (Max.) ➤ Writing mode
2242 : 1,336 mW (Max.); 2280 : 1,350 mW (Max.) ➤ Idle mode
2242 : 290 mW (Max.); 2280 : 277 mW (Max.) ■ Reliability <ul style="list-style-type: none"> ➤ Wear-leveling
Static and Dynamic wear-leveling algorithms
Up to 835 TBW at 1TB Capacity
(Client workload by JESD-219A) ➤ TBW
Up to 3,000 times ➤ Erase counts
LDPC (Low Density Parity Check) ➤ ECC
LDPC (Low Density Parity Check) ■ Physical specification <ul style="list-style-type: none"> ➤ 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 |
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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
32GB	SBMDS032G-PKCT34BM	WBMDS032G-PKCT34BM-C	128GB	SBMDS128G-PKCT38BM	WBMDS128G-PKCT38BM-C
64GB	SBMDS064G-PKCT34BM	WBMDS064G-PKCT34BM-C	256GB	SBMDS256G-PKCT38BM	WBMDS256G-PKCT38BM-C
128GB	SBMDS128G-PKCT34BM	WBMDS128G-PKCT34BM-C	512GB	SBMDS512G-PKCT38BM	WBMDS512G-PKCT38BM-C
			1TB	SBMDS001T-PKCT38BM	WBMDS001T-PKCT38BM-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	D	S	1	2	8	G	—	P	K	C	T	3	4	B	M	—	C
W	B	M	D	S	0	0	1	T	—	P	K	C	T	3	8	B	M	—	C

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| <p>X1 Grade
S : Standard grade operating temp. 0°C~+70°C
W : Wide temp. grade operating temp. -40°C~+85°C</p> <p>X2 The material of casing
B : Bare (without casing)</p> <p>X3 X4 X5 Product category
MDS : M.2 SATA SSD</p> <p>X6 X7 X8 X9 Capacity
032G : 32GB 256G : 256GB
064G : 64GB 512G : 512GB
128G : 128GB 001T : 1TB</p> <p>X11 Controller
P : PHANES Series</p> <p>X12 Controller version
A, B, C, D.....</p> | <p>X13 Controller grade
C : Commercial grade</p> <p>X14 Flash IC brand
T : Toshiba NAND flash IC</p> <p>X15 Flash IC type
3 : BiCS 3D-NAND Flash IC</p> <p>X16 X17 X18 Form-factor type
4 : 2242 form factor
8 : 2280 form factor
BM : B + M Key</p> <p>X20 Reserved for specific requirements
C : Conformal coating (optional)</p> |
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SLC
oSLC
MLC
3D-NAND
DRAM Module
Adapter
Card-drive