



Features

- TOSHIBA BiCS Flash™ (3D-NAND) technology
- Built with DRAM cache
- 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
- Ultra-high random read/write speed
- M.2 2242 capacities from 128GB up to 512GB
- M.2 2280 capacities from 128GB up to 1TB

Specification

<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 : 560 MB/s (Max.); 2280 : 540 MB/s(Max.) ➤ Sequential write 2242 : 510 MB/s (Max.); 2280 : 470 MB/s(Max.) ➤ 4KB random read 2242 : 75K IOPS (Max.); 2280 : 89K IOPS (Max.) ➤ 4KB random write 2242 : 66.6K IOPS (Max.); 2280 : 62.5K IOPS (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 70 Hz to 2K Hz, 20G, 3 axes ➤ 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 : 560 mA (Max.); 2280 : 625 mA (Max.) ➤ Writing mode 2242 : 740 mA (Max.); 2280 : 800 mA (Max.) ➤ Idle mode 2242 : 220 mA (Max.); 2280 : 220 mA (Max.) ■ Reliability <ul style="list-style-type: none"> ➤ Wear-leveling Static wear-leveling algorithms Up to 1,172 TBW at 1TB Capacity (Client workload by JESD-219A) ➤ TBW Up to 3,000 times LDPC (Low Density Parity Check) ➤ Erase counts Up to 3,000 times ➤ 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
128GB	SBMDS128G-VECT34BM(T)	WBMDS128G-VECT34BM(T)C	128GB	SBMDS128G-VECT38BM(T)	WBMDS128G-VECT38BM(T)C
256GB	SBMDS256G-VECT34BM(T)	WBMDS256G-VECT34BM(T)C	256GB	SBMDS256G-VECT38BM(T)	WBMDS256G-VECT38BM(T)C
512GB	SBMDS512G-VECT34BM(T)	WBMDS512G-VECT34BM(T)C	512GB	SBMDS512G-VECT38BM(T)	WBMDS512G-VECT38BM(T)C
			1TB	SBMDS001T-VECT38BM(T)	WBMDS001T-VECT38BM(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
W	B	M	D	S	5	1	2	G	—	V	E	C	T	3	4	B	M	T	C
W	B	M	D	S	0	0	1	T	—	V	E	C	T	3	8	B	M	T	C

Example 1

W	B	M	D	S	5	1	2	G	—	V	E	C	T	3	4	B	M	T	C
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Example 2

W	B	M	D	S	0	0	1	T	—	V	E	C	T	3	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

128G : 128GB 512G : 512GB
256G : 256GB 001T : 1TB

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

3 : BiCS 3D-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