❖ 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.
- Ultra-high random read/write speed
- Support S.M.A.R.T. command set and utility
- M.2 2242 capacities from 8GB up to 128GB
- M.2 2280 capacities from 8GB up to 256GB

❖ Specification

■ **Compatibility**	
	SATA Revision 3.1
	ATA-8 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**	2242 : 550 MB/s (Max.); 2280 : 570 MB/s(Max.)
➢ **Sequential write**	2242 : 130 MB/s (Max.); 2280 : 150 MB/s(Max.)
➢ **4KB random read**	2242 : 32K IOPS (Max.); 2280 : 32K IOPS (Max.)
➢ **4KB random write**	2242 : 29K IOPS (Max.); 2280 : 26K IOPS (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**	70 Hz to 2K Hz, 20G, 3 axes
➢ **Shock**	0.5ms, 1500G, 3 axes
➢ **Altitude**	70,000 feet
■ **Power consumption**	
➢ **Power requirement**	+3.3V ± 5%
➢ **Reading mode**	2242 : 210 mA (Max.); 2280 : 250 mA (Max.)
➢ **Writing mode**	2242 : 220 mA (Max.); 2280 : 290 mA (Max.)
➢ **Idle mode**	2242 : 100 mA (Max.); 2280 : 110 mA (Max.)
■ **Reliability**	
➢ **Wear-leveling**	Static wear-leveling algorithms
➢ **TBW**	Up to 416 TBW at 256GB Capacity (Client workload by JESD-219A)
➢ **Erase counts**	Up to 3,000 times
➢ **ECC**	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	**0ºC~+70ºC**	**-40ºC~+85ºC**	**Capacity**	**0ºC~+70ºC**	**-40ºC~+85ºC**
8GB	SBMDS008G-VDCTM4BM(T)	WBMDS008G-VDCTM4BM(T)C	**8GB**	SBMDS008G-VDCTM8BM(T)	WBMDS008G-VDCTM8BM(T)C
16GB	SBMDS016G-VDCTM4BM(T)	WBMDS016G-VDCTM4BM(T)C	**16GB**	SBMDS016G-VDCTM8BM(T)	WBMDS016G-VDCTM8BM(T)C
32GB	SBMDS032G-VDCTM4BM(T)	WBMDS032G-VDCTM4BM(T)C	**32GB**	SBMDS032G-VDCTM8BM(T)	WBMDS032G-VDCTM8BM(T)C
64GB	SBMDS064G-VDCTM4BM(T)	WBMDS064G-VDCTM4BM(T)C	**64GB**	SBMDS064G-VDCTM8BM(T)	WBMDS064G-VDCTM8BM(T)C
128GB	SBMDS128G-VDCTM4BM(T)	WBMDS128G-VDCTM4BM(T)C	**128GB**	SBMDS128G-VDCTM8BM(T)	WBMDS128G-VDCTM8BM(T)C
			256GB	SBMDS256G-VDCTM8BM(T)	WBMDS256G-VDCTM8BM(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
Example 1																			
W	B	M	D	S	1	2	8	G	–	V	D	C	T	M	4	B	M	T	C
Example 2																			
W	B	M	D	S	2	5	6	G	–	V	D	C	T	M	8	B	M	T	C

X1 Grade

S : Standard grade operating temp. 0ºC~+70ºC
W : Wide temp. grade operating temp. -40ºC~+85ºC

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
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 Form-factor 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)