MEMXPRO M.2 2280 PCIe PT33 Series
10K endurance, high speed PCIe Gen3 x4

Industrial 3D TLC 10K P/E cycle

Features

- PCIe Gen3x4 M.2 2280 with NVMe 1.3 supported
- Read/Write speeds of up to 2116/1340MB/s
- Random Performance of up to 188K/211K IOPS
- Industrial Micron 3D TLC, up to 10K P/E Cycles
- LDPC ECC for improved data integrity
- End-to-end data path protection with CRC parity, better safe and data guard features
- Featuring HMB (Host Memory Buffer), SLC caching and dynamic write acceleration
- Built-in OCP/OVP Protection
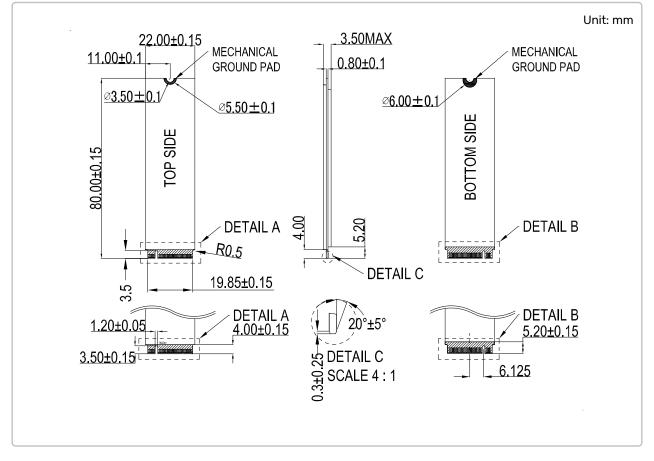- 30u" thickness Gold finger Optional

Specification

Product Model	M.2 2280 PCIe PT33
Interface	PCIe Gen 3 X 4
Form Factor	M.2 2280
Controller	SMI SM2263EN
Flash Type	3D TLC (**Original** Micron B17, 10K P/E cycle)
Max. Channel	4
Density	128GB ~2TB
Sequential R/W (Q32T1) (MB/sec, max.)	2116/1340
Operating Temperature	0°C~+70°C/-25°C~+85°C/-40°C~+85°C
Max. Power Consumption	4.9W (3.3Vx1500mA)
Dimension (L x W x H/mm)	80x22x3.5
Operating Voltage	3.3V±5%
Storage Temperature	-55°C~+95°C
Security*	✓ AES 256-bit Encryption ✓ TCG Opal 2.0 compliant ✓ Built-in H/W SHA256 and TRNG
External DRAM Buffer	✓
Thermal Sensor	✓
NVMe 1.3	✓
Vibration	20G (7~2KHz)
Shock Resistance	1500G@0.5ms
MTBF	>3 million hours

*: The functions will be activated by specific firmware versions.

Dimensions

Unit: mm

22.00±0.15
11.00±0.1
MECHANICAL GROUND PAD
∅3.50±0.1
∅5.50±0.1
TOP SIDE
80.00±0.15
DETAIL A
R0.5
3.5
19.85±0.15

3.50MAX
0.80±0.1
4.00
5.20
DETAIL C

∅6.00±0.1
MECHANICAL GROUND PAD
BOTTOM SIDE
DETAIL B

DETAIL A
1.20±0.05
4.00±0.15
3.50±0.15

20°±5°
0.3±0.25
DETAIL C
SCALE 4 : 1

DETAIL B
5.20±0.15
6.125

Ordering Information

Capacity	Commercial (0°C~70°C)	Extended (-25°C~+85°C)	Industrial (-40°C~+85°C)
128GB	FP28P-A2GMTS632C1	FP28P-A2GMTS632E1	FP28P-A2GMTS632W1
256GB	FP28P-B5GMTS632C1	FP28P-B5GMTS632E1	FP28P-B5GMTS632W1
512GB	FP28P-E1GMTS634C1	FP28P-E1GMTS634E1	FP28P-E1GMTS634W1
1TB	FP28P-010MTS634C1	FP28P-010MTS634E1	FP28P-010MTS634W1
2TB**	FP28P-020MTS634C1	FP28P-020MTS634E1	FP28P-020MTS634W1

**2TB targets Q3 2019 for sample availability.

Tip: End-to-end data path protection

MEMXPRO SSD controller solutions incorporate full data error detection with recovery engines to provide enhanced data integrity throughout the entire Host-to-NAND-to-Host data path.

The data recovery algorithm can effectively detect any error in the SSD data path, including hardware (i.e. ASIC) errors, firmware errors and memory errors arising in SRAM, DRAM or NAND.

Write flow w/encode
Host — Write — CRC Engine — Encode
Encode — ECC Engine DRAM
Encode — ECC Engine SRAM
Encode — ECC Engine / RAID Engine NAND
Decode
No error Data will be sent to host!

Read flow w/encode
Host — Read — CRC Engine — Decode
Decode — ECC Engine DRAM
Decode — ECC Engine SRAM
Decode — ECC Engine / RAID Engine NAND

MEMXPRO
Make it Possible