M Series M.2 2280 PCIe NVMe SSD

READ 2000MB/s*
WRITE 1600MB/s*
READ 221K IOPS*
WRITE 244K IOPS*

128 GB | 250 GB | 256 GB | 500 GB | 512 GB | 1 TB (1000GB) | 1 TB (1024GB)

INTRODUCTION

M Series M.2 2280 PCIe Gen3x4 NVMe SSD

The M.2 NVMe Solid State Drive can meet your most demanding gaming, graphic design, and video workflow needs. Delivering super-fast speeds of up to 2000MB/s read and 1600MB/s write, with IOPS of up to 244K.

PRODUCT OVERVIEW

• M.2 PCIe NVMe SSDs are up to four times faster in performance when compared to SATA SSDs and are compatible with most computing hardware and software that support the NVME standard, including small form factor machines (e.g Intel NUC), Ultrabooks and enthusiast desktops

• Choose the M.2 PCIe NVMe SSD to break through the 6Gbps SATA limitation for your performance needs. Specifically engineered to compliment high-specification machines and provide the best gaming and multimedia application performance that is ultra-responsive

KEY BENEFITS:

• Good balanced high performance PCIe Gen3x4 conforming to the NVMe 1.2 standard. Achieving up to 2000MB/s* read and 1600MB/s* write, the Integral M.2 PCIe SSDs break through the 6Gbps SATA limitation that takes computing performance to the next level

• Random IOPS up to 244K

• Gamers will benefit from faster loading times, exceptional performance and a more enjoyable gaming experience

• Power-users, content editors, graphic designers and general multi-taskers will all benefit from an ultra-responsive system and super-fast boot

• Improved video workflow when used in machines that work with: Digital film recording, live broadcast, video editing, colour correction and visual effects

• Supports SSD enhanced set of S.M.A.R.T. attributes

BENEFITS:

• Performance up to four times faster than a conventional SATA SSD

- Sequential Read up to 2000MB/s*, Write up to 1600MB/s*, Random 244K IOPS*

• No mechanical parts

- Highest reliability; less likely to fail than HDD

- Extreme shock resistance

- Zero noise

- No heat generation

• Low power consumption - improved battery life on laptops/netbooks

*Up to performance may vary depending on host device. (1TB model performance)

FEATURES

- PCIe Gen3x4
- Compliant with PCI Express Base Specification Rev 3.1
- Compliant with NVMe 1.2
- Non-volatile Flash Memory for outstanding data retention
- Ultra-efficient Block Management and Wear Levelling
- Supports S.M.A.R.T. - Self-Monitoring, Analysis and Reporting Technology
- 3 Year Warranty or TBW - whichever is earlier applies

CAPACITIES & INTERFACE

Capacities available	128GB, 250GB, 256GB, 500GB, 512GB, 100GB, 1024GB
Controller Technology	Silicon Motion SM2263XT
NAND	3D TLC
Form Factor	M.2 2280
Interface	NVMe PCIe Gen 3x4
Compliance	Compliant with PCI Express Base Specification Rev 3.1 NVMe 1.2
Sequential Perfomance up to[1]	128GB = READ 1800MB/s WRITE 600MB/s 250GB = READ 2000MB/s WRITE 1200MB/s 256GB = READ 2000MB/s WRITE 1200MB/s 500GB = READ 2000MB/s WRITE 1600MB/s 512GB = READ 2000MB/s WRITE 1600MB/s 1000GB = READ 2000MB/s WRITE 1600MB/s 1024GB = READ 2000MB/s WRITE 1600MB/s
Random Performance up to[1]	128GB = READ 110K IOPS, WRITE 151K IOPS 250GB = READ 179K IOPS, WRITE 140K IOPS 256GB = READ 179K IOPS, WRITE 140K IOPS 500GB = READ 188K IOPS, WRITE 156K IOPS 512GB = READ 188K IOPS, WRITE 156K IOPS 1TB (1000GB) = READ 221K IOPS, WRITE 244K IOPS 1TB (1024GB) = READ 221K IOPS, WRITE 244K IOPS

DIMENSIONS

Length mm	80
Width mm	22
Height mm (MAX)	2.25
Weight	10g
Packaged Weight	58g
Packaged Dimensions (mm)	L = 13.2, W = 11.5, H = 5.7

POWER CONSUMPTION

Power Management	+3.3V (-+5%)
Power Consumption (mW)[5]	READ WRITE IDLE 128GB - 2870 2360 680 250GB - 3040 2940 690 256GB - 3040 2940 690 500GB - 3070 3510 690 512GB - 3070 3510 690 1000GB - 2940 2760 330 1024GB - 2940 2760 330

ENVIRONMENTAL

Operating Temp[2]	0° - +70°C
Storage Temp	-40° - +85°C
Humidity[6]	5% to 95% non-condensing
Linear Shock (non-operating)	1500G, duration 0.5ms, half sine wave
Vibration (non-operational)	Frequency 700Hz~800Hz 3.08g 30min/axis X,Y,Z

FEATURES

Supports SMART Software	Yes
Supports TRIM	Yes (OS support required)
MTBF[3]	1.5 Million Hours >2 Million Hours (1TB)
Endurance (TBW[4])	128GB - 64TB 250GB - 128TB 256GB - 128TB 500GB - 256TB 512GB - 256TB 1TB (1000GB) - 450TB 1TB (1024GB) - 450TB
Compliancy	CE, FCC, RoHS

WARRANTY

3 years or TBW - whichever is earlier applies

CAPACITY	PART CODE	BARCODE (EAN)
128GB	INSSD128GM280NM1	5055288443358
250GB	INSSD250GM280NM1	5055288447165
256GB	INSSD256GM280NM1	5055288443365
500GB	INSSD500GM280NM1	5055288447172
512GB	INSSD512GM280NM1	5055288443372
1TB (1000GB)	INSSD1TM280NM1X	5055288447189
1TB (1024GB)	INSSD1TM280NM1	5055288445383

Notes:

1. Actual performance may vary and depends on use conditions, host and environment
2. Operating temperature is the drive case temperature as measured by the SMART temperature attribute
3. Mean Time Between Failures is estimated based on JEDEC-218/219 standard methodology
4. TBW (Terabytes Written) DWPD (Drive Write Per Day). TBW and DWPD is a measurement of SSDs expected lifespan, which represents the amount of data written to the device. This is only an estimate and can differ based in user usage behaviour, platform and estimates provided by the flash vendor
5. Power Consumption may differ according to flash configuration and platform
6. Humidity test was for 4 hours

All Specifications are subject to change without notice
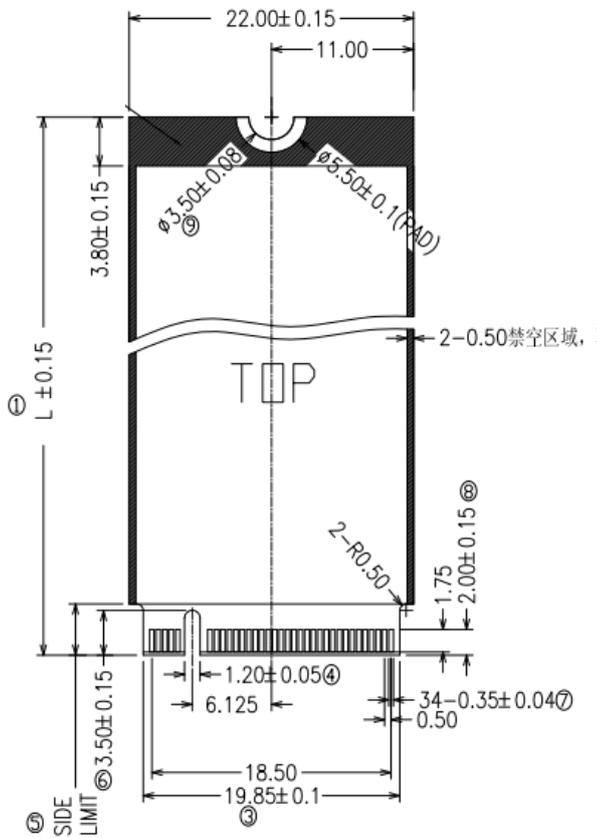1GB = 1,000,000,000 Bytes, 1TB = 1,000,000,000,000 Bytes; 1 sector = 512 Bytes.
The total usable capacity of the SSD may be less than the total physical capacity because a small portion of the capacity is used for NAND flash management and maintenance purposes.

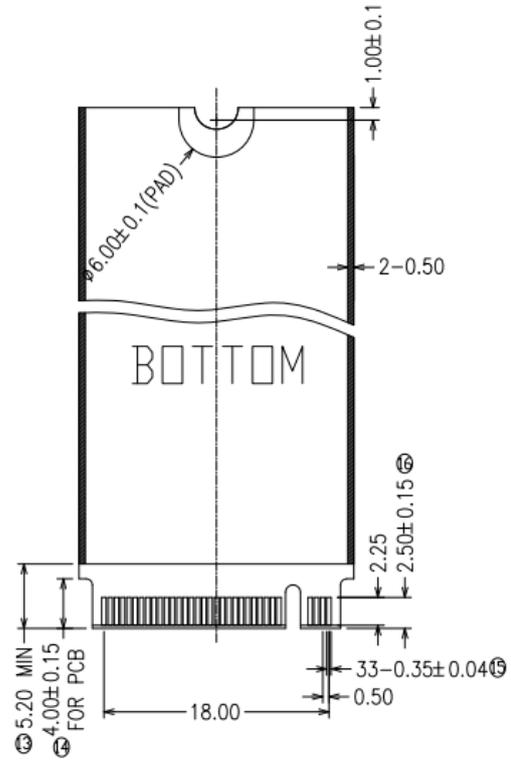3 year warranty or TBW - whichever is earlier applies.
For warranty information please visit www.integralmemory.com/warranty

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PHYSICAL DIMENSION: M.2 2280: 80mm (L) x 22mm (W) x2.25mm (MAX)

TOP VIEW

BOTTOM VIEW

SIDE VIEW

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