

M2 Series M.2 2280 PCIe NVMe SSD



READ 3450MB/s*
WRITE 3200MB/s*
READ 290K IOPS*
WRITE 280K IOPS*



250 GB

256 GB

500 GB

512 GB

1 TB
(1000GB)

1 TB
(1024GB)

INTRODUCTION

M2 Series M.2 2280 PCIe Gen3x4 8GB/s 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 3450MB/s read and 3200MB/s write, with IOPS of up to 290K.

PRODUCT OVERVIEW

- M.2 PCIe NVMe SSDs are up to seven 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 gaming 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 1.4 standard. Achieving up to 3450MB/s* read and 3200MB/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 290K
- 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 seven times faster than a conventional SATA SSD
- Sequential Read up to 3450MB/s*, Write up to 3200MB/s*, Random 290K 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 1.4
- 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	250GB, 256GB, 500GB, 512GB, 1000GB, 1024GB
Controller Technology	InnoGrit 5216
NAND	3D TLC
Form Factor	M.2 2280
Interface	NVMe PCIe Gen 3x4
Compliance	Compliant with PCI Express Base Specification Rev 3.1 NVMe 1.4
Sequential Performance up to ¹	250GB = READ 3350MB/s WRITE 1300MB/s 256GB = READ 3350MB/s WRITE 1300MB/s 500GB = READ 3450MB/s WRITE 2400MB/s 512GB = READ 3450MB/s WRITE 2400MB/s 1000GB = READ 3450MB/s WRITE 3200MB/s 1024GB = READ 3450MB/s WRITE 3200MB/s
Random Performance up to ¹	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 290K IOPS, WRITE 280K IOPS 1TB (1024GB) = READ 290K IOPS, WRITE 280K 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
	250GB - 2789	2310	1056
	256GB - 2789	2310	1056
	500GB - 2822	2970	1056
	512GB - 2822	2970	1056
	1000GB - 2871	3802	1056
1024GB - 2871	3802	1056	

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 10~2000Hz 20g 30min/axis X,Y,Z

FEATURES	
Supports SMART Software	Yes
Supports TRIM	Yes (OS support required)
MTBF ³	1.5 Million Hours
Endurance (TBW ⁴)	250GB - 128TB 256GB - 128TB 500GB - 256TB 512GB - 256TB 1TB (1000GB) - 512TB 1TB (1024GB) - 512TB
Compliance	CE, FCC, RoHS, UKCA

WARRANTY	
3 years or TBW - whichever is earlier applies	

CAPACITY	PART CODE	BARCODE (EAN)
250GB	INSSD250GM280NM2	5055288447325
256GB	INSSD256GM280NM2	5055288447332
500GB	INSSD500GM280NM2	5055288447349
512GB	INSSD512GM280NM2	5055288447356
1TB (1000GB)	INSSD1TM280NM2X	5055288447363
1TB (1024GB)	INSSD1TM280NM2	5055288447370

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.

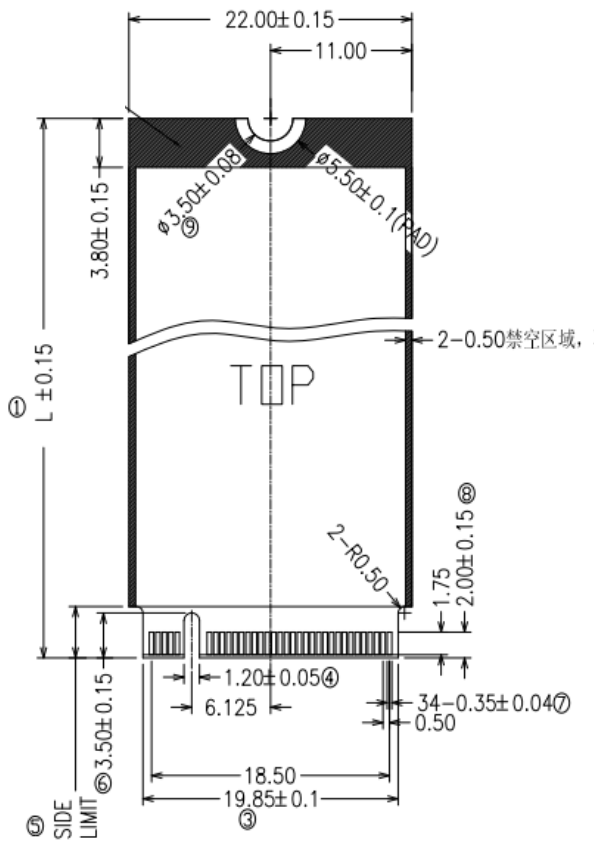
The total usable capacity of the SSD may be less than the total physical capacity because a small portion of the capacity is used for NAND flash management and maintenance purposes.

3 year warranty or TBW - whichever is earlier applies.

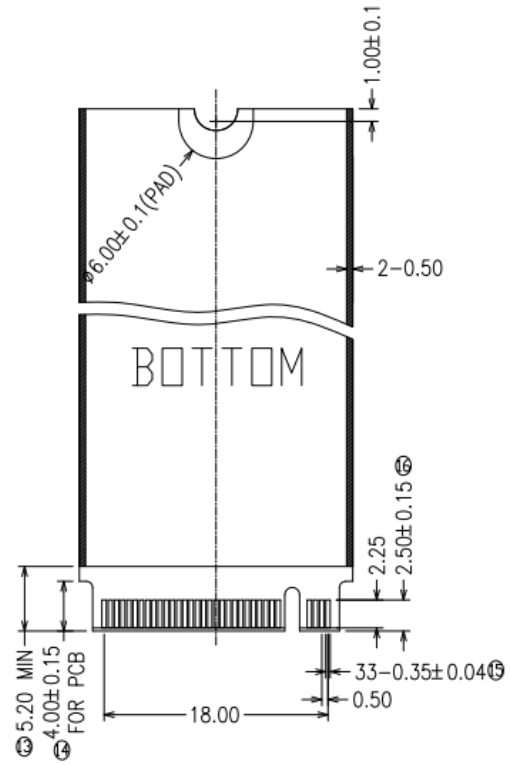
For warranty information please visit www.integralmemory.com/warranty

PHYSICAL DIMENSION: M.2 2280: 80mm (L) x 22mm (W) x 2.25mm (MAX)

TOP VIEW



BOTTOM VIEW



SIDE VIEW

