

M.2 2242 & M.2 2280

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SMART Modular Technologies' M.2 2242 & 2280 solid state drives bring the advantages of non-volatile memory to embedded computing applications. Similar to SMART's standard M.2, the Value Series provides economic, highly reliable mass storage in an M.2 form factor. The M.2 Value Series is available in two different lengths: 42mm and 80mm. They range in capacities from 8GB to 256GB for the M.2 2242 and 16GB to 64GB for the M.2 2280. Low power requirements make the M.2 SSD ideal for mobile applications, where power savings can result in longer battery life. In fixed applications, lower power dissipation can also reduce cooling requirements and costs in blade or server environments.

The M.2 Values Series is a SATA III solid state storage solution that offers adequate sequential read/write performance. It is suitable for embedded applications that require lower drive capacity and utilize the drive for boot up code and OS code storage. The newly introduced M.2 Values Series SATA III offers sequential and random read/write performance in high capacity drives for transaction intensive applications.

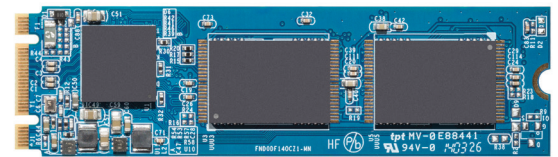
SMART's M.2 SATA SSDs are offered with multi-level cell (MLC) NAND. They provide enhanced reliability by incorporating onboard error detection and correction and static wear leveling algorithms to provide reliable operation over product life. S.M.A.R.T. ID reporting provides health information to determine the expected life of the SSD.

Features & Benefits

- Advanced wear leveling – static and dynamic wear leveling
- Advanced Error Detection/Correction circuitry for superior data reliability
- Self-Monitoring Analysis and Reporting Technology (S.M.A.R.T.) support
- Supports for 48bit LBA addressing with larger maximum transfer size
- Improved shock and vibration performance over rotating media

Product Family Overview

| | Capacity | Performance Sequential |
|-----------------|--------------|--|
| M.2 SATA | | |
| 2280 MLC | 16GB to 64GB | Up to 450MB/s Max. Up to 190MB/s Max. |
| 2240 MLC | 8GB to 256GB | Up to 440 MB/s Max. Up to 190 MB/s Max. |



Applications

- Personal PC
- Communications
- Embedded computing
- POS
- Industrial
- Networking
- Servers
- Storage

Specifications

| | M.2 2242 | M.2 2280 |
|------------------------------------|--|---|
| Performance | | |
| Host Interface Rate | 6Gb/s (Backwards compatible to 3Gb/s & 1.5Gb/s) | |
| Capacities | 8GB to 256GB | 16GB to 64GB |
| Sequential Read (maximum) | Up to 460MB/s | Up to 450 MB/s (64GB) Up to 440 MB/s (32GB) Up to 250 MB/s (16GB) |
| Sequential Write (maximum) | Up to 190MB/s | Up to 190 MB/s (32 - 64GB) Up to 170 MB/s (16GB) |
| Random Read (maximum) | Up to 45K IOPS | Up to 45K IOPS |
| Random Write (maximum) | Up to 28K IOPS | Up to 28K IOPS |
| Reliability | | |
| Data Reliability | < 1 Non-Recoverable Error in 10 ¹⁵ bits read | |
| Data Retention | 10 years >90% life remaining, 1 year at the end of life | |
| Endurance ¹ | 2.4 TBW / GB | |
| Error Correction (BCH) | Up to 43 bits /1 Kbyte sector | |
| Environmental | | |
| Shock | 1500 g half-sine, 0.5 msec, 1 shock along each axis, X,Y,Z in each direction | |
| Vibration | 20G 80-2000Hz, 1.52mm 20-80Hz, 3 axis | |
| Operating Temperature - Commercial | 0°C to 70°C | |
| Storage Temperature | -40°C to 85°C | |
| Humidity | 40°C, Operation: 90% RH, Storage: 93% RH | |
| Altitude | 24,384 m [80,000 ft] | |
| Physical | | |
| Length | 42.0 mm | 80.0 mm |
| Width | 22.0 mm | 22.0 mm |
| Height | 4.00 mm | 4.00 mm |

¹Endurance for 100% Sequential Workload; endurance is directly related to the User Specific Workload

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