VALUE SERIES

SMART®
Modular Technologies

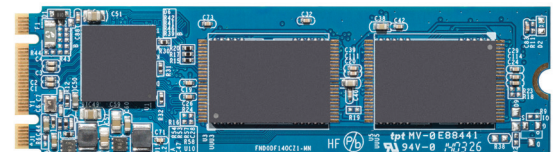# M.2 2242 & M.2 2280

M.2 2242 & M.2 2280

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 480GB 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
- ATA and SATA interface power management support
- External LED activity signaling through the connector
- Native Command Queuing (NCQ) support with a maximum queue depth of 32
- Zero seek time
- Noiseless operation
- Supports TRIM command based on the ATA-8 Standard
- Supports ATA download microcode
- Low power management
- DIPM/HIPM Mode
- Bad block management

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)	140MB/s to 460MB/s	280MB/s to 450MB/s
Sequential Write (maximum)	100MB/s to 190MB/s	110MB/s to 190MB/s
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	80.0 mm	42.0 mm
Width	22.0 mm	22.0 mm
Height	4.00 mm	4.00 mm

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

Ordering Information

SMART Part Number	Capacity
M.2 2242	
SV9M2S46D008GJM21	8GB
SV9M2S46D016GJM21	16GB
SV9M2S46D032GJM21	32GB
SV9M2S46D064GJM21	64GB
SV9M2S46D128GJM21	128GB
SV9M2S46D256GJM21	256GB
M.2 2280	
SV9M2S86D016GJM21	16GB
SV9M2S86D032GJM21	32GB
SV9M2S86D060GLM21	60GB
SV9M2S86D064GJM21	64GB
SV9M2S86D120GLM21	120GB
SV9M2S86D240GLM21	240GB
SV9M2S86D480GLM21	480GB

Contact information

Corporate Headquarters/North America: T: (+1) 800-956-7627 • T: (+1) 510-623-1231 • F: (+1) 510-623-1434 • E: info@smartm.com

Customer Service: T: (+1) 978-303-8500 • E: customers@smartm.com

Latin America: T: (+55) 11 4417-7200 • E: sales.br@smartm.com

EMEA: T: (+44) 7825-084427 • E: sales.euro@smartm.com

Asia/Pacific: T: (+65) 6678-7670 • E: sales.asia@smartm.com

For more information, please visit: **www.smartm.com**

SMART ®
Modular Technologies