

N200, M.2 2242 & M.2 2280 Single Sided

SMART Modular Technologies' M.2 2242 & 2280 single sided solid state drives bring the advantages of non-volatile memory to embedded computing applications. The N200 product provides an economic yet highly reliable mass storage in an M.2 form factor which is available in both commercial and industrial temperature ranges. The M.2 N200 is available in two different lengths: 42mm and 80mm. They range in capacities from 32GB to 512GB for the M.2 2242 and 32GB to 1TB for the M.2 2280. In fixed applications, lower power dissipation can also reduce cooling requirements and costs in blade or server environments.

The M.2 N200 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 N200 SATA III offers sequential and random read/write performance in high capacity drives for transaction intensive applications.

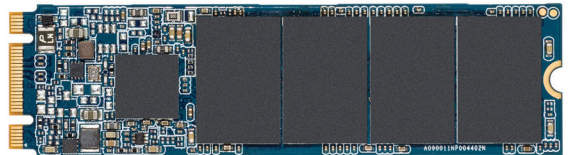
SMART's M.2 SATA SSDs are offered with Triple Level Cell (TLC) 3D NAND. They provide enhanced reliability by incorporating onboard error detection and correction and static wear leveling algorithms to provide reliable operation over product life. S.M.A.R.T. ID reporting provides health information to 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

N200 Product Family Overview

	Capacity	Performance Sequential
M.2 SATA		
2280 TLC	32GB to 1TB	Up to 550MB/s Max. Up to 500MB/s Max.
2242 TLC	32GB to 512GB	Up to 550 MB/s Max. Up to 490 MB/s Max.



Applications

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



M.2 2242 & M.2 2280

Specifications

	M.2 2242 TLC	M.2 2280 Single Sided TLC
Performance		
Host Interface Rate	6Gb/s (Backwards compatible to 3Gb/s & 1.5Gb/s)	
Capacities	32GB to 512GB	32GB to 1TB
Sequential Read (maximum)	Up to 300MB/s (32GB) Up to 550MB/s (64GB - 512GB)	Up to 300MB/s (32GB) Up to 550MB/s (64GB - 1TB)
Sequential Write (maximum)	Up to 125MB/s (32GB) Up to 255MB/s (64GB) Up to 450MB/s (128GB) Up to 490MB/s (256 - 512GB)	Up to 125MB/s (32GB) Up to 255MB/s (64GB) Up to 450MB/s (128GB) Up to 490MB/s (256 - 512GB) Up to 500MB/s (1TB)
Reliability		
Data Reliability	< 1 Non-Recoverable Error in 10 ¹⁶ bits read	
Data Retention	10 years >90% life remaining, 1 year at the end of life	
Endurance (JEDEC Client Workload) ¹	32GB: 17 TBW 64GB: 42 TBW 128GB: 75 TBW 256GB: 180 TBW 512GB: 425 TBW 1TB: 835 TBW	
Error Correction	LDPC (Equivalent to 200 bits/4KB)	
Environmental		
Shock	1500 <i>g</i> 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° to 70°C Industrial: -40° to 85°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	3.8 mm	2.3 mm

¹Endurance is directly related to the User Specific Workload

Ordering Information

Part Number	Density
M.2 2242 Commercial Operating Temperature	
SVM2S46512GNT51	512GB
SVM2S46256GNT51	256GB
SVM2S46128GNT51	128GB
SVM2S46064GNT51	64GB
SVM2S46032GNT51	32GB
M.2 2242 Industrial Operating Temperature	
SVM2S46512GNTI51	512GB
SVM2S46256GNTI51	256GB
SVM2S46128GNTI51	128GB
SVM2S46064GNTI51	64GB
SVM2S46032GNTI51	32GB
M.2 2280 Single Sided Commercial Operating Temperature	
SVM2SH61024NT51	1TB
SVM2SH6512GNT51	512GB
SVM2SH6256GNT51	256GB
SVM2SH6128GNT51	128GB
SVM2SH6064GNT51	64GB
SVM2SH6032GNT51	32GB
M.2 2280 Single Sided Industrial Operating Temperature	
SVM2SH61024NTI51	1TB
SVM2SH6512GNTI51	512GB
SVM2SH6256GNTI51	256GB
SVM2SH6128GNTI51	128GB
SVM2SH6064GNTI51	64GB
SVM2SH6032GNTI51	32GB

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) 0 7826-064-745 • E: sales.euro@smartm.com

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

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