SMART®
Modular Technologies

M1300 PCIe M.2 2242

The M1300 PCIe M.2 2242 embedded (internal) module is a robust, solid state drive that specifically targets the needs of OEM markets, such as server, storage cache/accelerators, networking, and data communications applications requiring reliable internal storage with a small footprint.

The M1300 PCIe M.2 2242 is also a natural fit for mobile and embedded computing, medical, automotive, and industrial applications.

The low power consumption and fast data throughput are major advantages of the PCIe M.2 2242 modules over traditional rotating hard disk drives (HDDs).

Utilizing PCIe Base 3.1 interface, the M1300 PCIe M.2 2242 modules are easily integrated into a host system without any special BIOS modifications or additional device drivers. These products offer read performance up to 1550 MBytes/sec and write performance of up to 850 MBytes/sec. The modules are available in capacities of 120 GBytes to 240 GBytes.

The M1300 PCIe M.2 2242 products address the need for enhanced reliability by incorporating on-board error detection and correction and static wear leveling algorithms to provide reliable operation over the product life cycle.

Features & Benefits

- PCIe Gen3 x2 NVMe 1.3 compliant
- Advanced Flash Management
- Supports power saving modes of APST, APSM, and L1.2
- Advanced device security features with standard NVMe format

Product Family Overview

	Capacity	Performance Sequential
M1300 PCIe M.2 2242		
2242-S3-B-M TLC	120GB, 240GB, 480GB	1550MB/s Read (max) 850MB/s Write (max)

Applications

- Networking
- Data communications
- Single board computers

M1300 PCIe M.2

Specifications

	M1300 PCIe M.2 2242
Performance	
	TLC
Host Interface Rate (Maximum)	8.0 Gbps / 5 Gbps / 2.5 Gbps
Capacities	120GB, 240GB, 480GB
Sequential Read (maximum)	Up to 1400 MB/s (120GB) Up to 1550 MB/s (240GB, 480GB)
Sequential Write (maximum)	Up to 450 MB/s (120GB) Up to 850 MB/s (240GB, 480GB)
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 (client workload)	480 TBW (480GB capacity)
Error Correction / Error Detection	LDPC ECC (equivalent to 120 bits per 1Kbytes)
Environmental	
Shock – Non-Operating	1500 g half-sine, 0.5 msec, 1 shock along each axis, X,Y,Z in each direction
Shock – Operating	50 g half sine, 11 msec, 3 shocks along each axis, X,Y,Z in each direction
Vibration – Operating	20 g rms 80-2000Hz, 1.52mm 20-80Hz, 3 axis
Operating Temperature	Commercial 0°C to 70°C
Storage Temperature	Commercial -40°C to 85°C
Humidity	10% to 90%, non-condensing, relative humidity
Physical	
Length	42.0 mm
Width	22.0 mm
Height	3.65 mm

Ordering Information

Part Number	Capacity
M1300 PCIe M.2 2242 Commercial Temperature	
SVM2P4A120GMT51	120GB
SVM2P4A240GMT51	240GB
SVM2P4A480GMTX51	480GB

Contact information

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