M.2 SATA

Key Features

- MCU-based Power Loss Protection Design*
- LDPC & RAID Data Recovery
- End-to-End Data Protection
- TRIM / Global Wear Leveling support

*Customized options available on request basis

Quantum Digital Technology Industrial M.2 SATA (SATA) solid state modules are available in 2242 and 2280 form factor. These modules provide high performance and capacity with small footprint which makes these solutions a perfect choice for small systems with limited spaces.

Available in both double and single-sided configurations, M.2 SATA SSDs are packed with variety of densities and can withstand higher temperature range fit for industrial environments. Wide operating temperature ranging from -40°C to 85°C.

These M.2 modules are also suitable for networking, thin storage systems or other industrial related applications. M.2 SATA SSDs feature with enhanced power loss protection (PLP) is offered in various temperature range. Using this technology, the data and storage device have a higher level of integrity and reliability and are protected in power glitches and unstable charge states.

Technologies & Add-On Services	Secure Erase	Industrial Temp	Anti-Sulfur	Conformal Coating
	▲	▲	▲	▲

▲: Customization option available on a project basis.

Specifications

M.2 SATA				
Interface	SATA III 6 Gb/s			
Flash Type	SLC	3D TLC (pSLC mode)	3D TLC	
Form Factor	2242 D2-B-M			
Operating Temperature	-40°C to 85°C	-40°C to 85°C	0°C to 70°C &-40°C to 85°C	
Power Loss Protection Options	Hardware + Firmware Based Or Firmware based			
Optional SED Features	-		AES 256-bit Encryption, TCG Opal 2.0	-
Capacity	8 GB to 64 GB	40 GB to 160 GB	120 GB to 480 GB	32 GB to 1 TB
Sequential Read (MB/s) up to	530	560	560	560
Sequential Write (MB/s) up to	400	520	510	525
Random Reads IOPS (4K, QD32) up to	76,000	68,000	100,000	70,500
Random Writes IOPS (4K, QD32) up to	76,000	88,000	90,000	81,000
Endurance and Reliability				
Endurance (TBW) up to	5,333 TB	9,600 TB	2,327 TB	2,792 TB
Reliability MTBF @ 25°C	>2,000,00 0 hours			
Dimensions: L x W x H (mm)	42 x 22 x 3.5			
Certifications	CE, FCC	CE, FCC, BSMI, UKCA, RoHS, REACH		
Warranty (years)	5		2	

M.2 SATA			
Interface	SATA III 6 Gb/s		
Flash Type	3D TLC (pSLC mode)	3D TLC	
Form Factor	2280 D2-B-M		2280 S2-B-M
Operating Temperature	0°C to 70°C & -40°C to 85°C		0°C to 70°C
Power Loss Protection Options	Hardware + Firmware Based		Firmware Based
Optional SED Features	-	AES 256-bit Encryption, TCG Opal 2.0	-
Capacity	80 GB to 320 GB	120 GB to 960 GB	32 GB to 1 TB
Performance			
Sequential Read (MB/s) up to	560	560	560
Sequential Write (MB/s) up to	520	480	525
Random Reads IOPS (4K, QD32) up to	90,000	100,000	72,000
Random Writes IOPS (4K, QD32) up to	88,000	90,000	85,000
Endurance and Reliability			
Endurance (TBW)[2] up to	19,200 TB	4,655 TB	2,792 TB
Reliability MTBF @ 25°C	>2,000,000 hours		
Others			
Dimensions: L x W x H (mm)	80 x 22 x 3.35		80 x 22 x 2.2
Certifications	CE, FCC, BSMI, UKCA, RoHS, REACH		
Warranty	5 years	2 years	

Available Solutions

Capacity	Operating Temperature	Power Loss Protection	Custom part Number
120GB	-40°C to 85°C	Hardware + Firmware Based	TBD
240GB	-40°C to 85°C	Hardware + Firmware Based	TBD
480GB	-40°C to 85°C	Hardware + Firmware Based	TBD
960GB	-40°C to 85°C	Hardware + Firmware Based	TBD
120GB	0°C to 70°C	Hardware + Firmware Based	TBD
240GB	0°C to 70°C	Hardware + Firmware Based	TBD
480GB	0°C to 70°C	Hardware + Firmware Based	TBD
960GB	0°C to 70°C	Hardware + Firmware Based	TBD
32GB	0°C to 70°C	Firmware Based	TBD
64GB	0°C to 70°C	Firmware Based	TBD
128GB	0°C to 70°C	Firmware Based	TBD
256GB	0°C to 70°C	Firmware Based	TBD
512GB	0°C to 70°C	Firmware Based	TBD
128GB	0°C to 70°C	Firmware Based	TBD
256GB	0°C to 70°C	Firmware Based	TBD
512GB	0°C to 70°C	Firmware Based	TBD
1TB	0°C to 70°C	Firmware Based	TBD
128GB	0°C to 70°C	Firmware Based	TBD
256GB	0°C to 70°C	Firmware Based	TBD
512GB	0°C to 70°C	Firmware Based	TBD
1TB	0°C to 70°C	Firmware Based	TBD