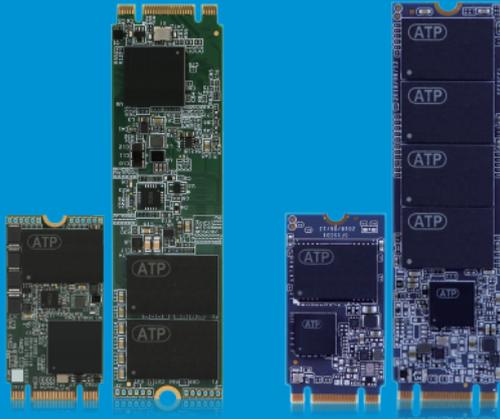




# M.2 SATA

Targeted Product Portfolio, Engineered Specifically for Your Mission Critical Applications



## Key Features

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

\* Customization available on a project basis

ATP's Industrial M.2 Serial ATA (SATA) solid state modules are available in types 2242 and 2280. These lean modules provide higher performance and capacity while minimizing the overall module footprint, making them perfect choices for small systems installed in limited spaces.

Available in both double- and single-sided configurations, M.2 SATA SSDs are packed with high densities and can withstand severe temperature shifts common in industrial environments, thanks to wide operating temperature ratings of -40°C to 85°C.

ATP M.2 modules are suitable for networking and thin storage systems, point-of-sale systems (POS), and industrial computer applications. Select M.2 SATA SSDs feature a microcontroller unit (MCU) design for enhanced power loss protection (PLP) in various temperatures, power glitches and charge states, thus safeguarding data and storage device for higher levels of integrity and reliability.

Technologies & Add-On Services	S.M.A.R.T.	Hardware-based Power Loss Protection	AutoRefresh	Advanced Wear Leveling	Dynamic Data Refresh	End-to-End Data Protection	Secure Erase	TCG Opal 2.0	Industrial Temperature	Anti-Sulfur Resistors	Conformal Coating
Premium	○	○	○	○	○	○	▲	○	○	▲	▲
Superior	○	○	○	○	○	○	▲	○	▲	▲	▲
Value	○	—	○	○	○	—	—	—	—	—	—

▲: Customization option available on a project basis.

# Specifications

M.2 SATA							
Product Line	Premium			Superior			Value
	A800Pi	A750Pi	A700Pi	A650Si	A650Sc	A600Si	A600Sc
Interface	SATA III 6 Gb/s						
Flash Type	SLC	3D TLC (pSLC mode)		3D TLC			
Form Factor	2242 D2-B-M						
Operating Temperature (Tcase) <sup>1</sup>	-40°C to 85°C	-40°C to 85°C		-40°C to 85°C	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	8 GB to 64 GB	40 GB to 160 GB		120 GB to 480 GB			32 GB to 128 GB
Performance							
Sequential Read (MB/s) up to	530	560		560		560	560
Sequential Write (MB/s) up to	400	520		480		510	420
Random Reads IOPS (4K, QD32) up to	76,000	68,000		100,000		100,000	68,000
Random Writes IOPS (4K, QD32) up to	76,000	88,000		90,000		88,000	81,000
Endurance and Reliability							
Endurance (TBW) <sup>2</sup> up to	5,333 TB	9,600 TB	6,400 TB	2,327 TB		1,396 TB	147.7 TB
Reliability MTBF @ 25°C	>2,000,000 hours						
Others							
Dimensions: L x W x H (mm)	42 x 22 x 3.5						42 x 22 x 3.2
Certifications	CE, FCC	CE, FCC, BSMI, UKCA, RoHS, REACH					CE, FCC
Warranty	5 years			2 years			

M.2 SATA						
Product Line	Premium		Superior			Value
	A750Pi	A700Pi	A650Si	A650Sc	A600Si	A600Sc
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 (Tcase) <sup>1</sup>	-40°C to 85°C		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 512 GB
Performance						
Sequential Read (MB/s) up to	560		560		560	560
Sequential Write (MB/s) up to	520		480		510	440
Random Reads IOPS (4K, QD32) up to	90,000		100,000		100,000	72,000
Random Writes IOPS (4K, QD32) up to	88,000		90,000		88,000	85,000
Endurance and Reliability						
Endurance (TBW) <sup>2</sup> up to	19,200 TB	12,800 TB	4,655 TB		2,792 TB	590.8 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					CE, FCC
Warranty	5 years		2 years			

<sup>1</sup> Case Temperature, the composite temperature as indicated by SMART temperature attributes.

<sup>2</sup> Under highest Sequential write value. May vary by density, configuration and applications.

## M.2 2280 Hot Items Ordering Information

Product Line	Capacity <sub>1</sub>	Operating Temperature <sub>2</sub>	Power Loss Protection <sub>3</sub>	SED <sub>4</sub>	P/N
A650Si (New)	120GB	-40°C to 85°C	Hardware + Firmware Based	-	AF120GSTIC-7BCIP
A650Si (New)	240GB	-40°C to 85°C	Hardware + Firmware Based	-	AF240GSTIC-7BCIP
A650Si (New)	480GB	-40°C to 85°C	Hardware + Firmware Based	-	AF480GSTIC-7BCIP
A650Si (New)	960GB	-40°C to 85°C	Hardware + Firmware Based	-	AF960GSTIC-7BCIP
A650Sc (New)	120GB	0°C to 70°C	Hardware + Firmware Based	-	AF120GSTIC-7BCXP
A650Sc (New)	240GB	0°C to 70°C	Hardware + Firmware Based	-	AF240GSTIC-7BCXP
A650Sc (New)	480GB	0°C to 70°C	Hardware + Firmware Based	-	AF480GSTIC-7BCXP
A650Sc (New)	960GB	0°C to 70°C	Hardware + Firmware Based	-	AF960GSTIC-7BCXP
A600Vc	32GB	0°C to 70°C	Firmware Based	-	AF32GSTIC-2BAXX
A600Vc	64GB	0°C to 70°C	Firmware Based	-	AF64GSTIC-2BAXX
A600Vc	128GB	0°C to 70°C	Firmware Based	-	AF128GSTIC-2BAXX
A600Vc	256GB	0°C to 70°C	Firmware Based	-	AF256GSTIC-2BAXX
A600Vc	512GB	0°C to 70°C	Firmware Based	-	AF512GSTIC-2BAXX

<sup>1</sup> Amount of actual usable storage that can be utilize.

<sup>2</sup> Refers to Case Temperature range during device operation, as indicated by SMART temperature attributes.

<sup>3</sup> Hardware + Firmware based power loss protection design with Level 4 (data-in-flight) protection; Firmware based power loss protection design with Level 1 (data-at-rest) protection.

<sup>4</sup> Allows data written to and read from the SSD to be constantly and automatically encrypted and decrypted. Conforms to TCG Opal 2.0 and uses AES 256-bit HW encryption.

Product spec and its related information are subject to change without advance notice.  
Please refer to [www.atpinc.com](http://www.atpinc.com) for latest information

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