



# Solid State Drives and Modules

Reliable Storage Solutions for the Data Era

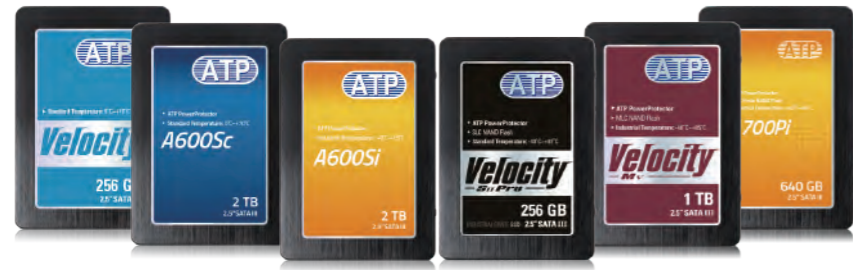
ATP flash storage products are built for different workloads, usage scenarios, operating environments and platforms. Hard-wired for sustained operation in wide temperatures (-40°C to 85°C) and other environmental challenges, they may also be customized according to customers' requirements.\* They are guaranteed to deliver outstanding performance, rugged durability, and many years of reliable performance. They support the latest high-speed NVMe™ protocol on a PCIe® 3.1 x4 interface as well as proven interfaces such as SATA 6 Gb/s and USB. Various form factors include U.2, 2.5" SSDs, M.2, mSATA and eUSB modules.

## Key Differentiators\*

- **Customizable FW/HW Thermal Management.** Currently available for high-density NVMe and SSDs, customizable solutions combine firmware and hardware technologies to overcome overheating challenges in high-speed and high-performance storage. By understanding the performance criteria, user application and system specifications, ATP can offer tailor-fitted solutions to deliver improved sustained performance.
- **High-Performance, High-Density Storage in Compact Form Factors.** ATP M.2 and mSATA modules deliver power-packed performance and massive storage capacity in lean footprints, making them ideal for space-restricted systems such as embedded/IPC, point-of-sale (POS), and networking systems.
- **MCU-Based Power Loss Protection (PLP).**\* NVMe modules and selected SATA SSDs feature a completely new design of the PLP array, which utilizes a new power management IC (PMIC) and new firmware-programmable MCU (microcontroller unit). Integrated into its latest PLP technology, the new MCU design allows the PLP array to perform intelligently in various temperatures, power glitches and charge states.
- **End-to-End Data Path Protection.** ATP industrial SSDs incorporate End-to-End Data Path Protection technology to ensure the integrity of data during transfers from the host system to the storage device and back by detecting and correcting errors on multiple transfer points.

\* May vary by product and project support.

## 2.5" SSDs



### Key Features

- MCU-based Power Loss Protection Design\*
- LDPC & RAID Data Recovery
- End-to-End Data Protection
- TRIM / Global Wear Leveling support
- Write-protect disabled/enabled
- NSA-compliant Secure Erase

\* Customization available on a project basis

Product Name		2.5" SSD			
Product Line		Premium		Superior	
Naming		A800Pi	A700Pi	A600Si	A600Sc
Flash Type		SLC	Pseudo SLC	MLC	MLC
Density		8 GB to 256 GB	80 GB to 640 GB	64 GB	
Performance	Sequential Read up to (MB/s)	520	560	440	
	Sequential Write up to (MB/s)	420	520	80	
	Random Read IOPS up to	76,000	95,000	38,400	
Interface		SATA III 6 Gb/s			
Operating Temperature (Tcase)*		-40°C to 85°C		-40°C to 85°C	0°C to 70°C
Endurance TBW** (max.)		21,333 TB	25,600 TB	145.5 TB	174.6 TB
Reliability	MTBF @ 25°C	>2,000,000 hours			
	Number of Insertions	10,000 minimum			
Dimensions: L x W x H (mm)		100.0 x 69.9 x 9.2	100.0 x 69.9 x 7 / 9.2	100.0 x 69.9 x 9.2	

Product Name		2.5" SSD		
Product Line		Superior		Value
Naming		A600Si	A600Sc	A600Vc
Flash Type		TLC	TLC	TLC
Density		120 GB to 1920 GB	120 GB to 1920 GB	32 GB to 512 GB
Performance	Sequential Read up to (MB/s)	560		560
	Sequential Write up to (MB/s)	500		440
	Random Read IOPS up to	100,000		72,000
Interface		SATA III 6 Gb/s		
Operating Temperature (Tcase)*		-40°C to 85°C	0°C to 70°C	0°C to 70°C
Endurance TBW** (max.)		5,585 TB		590.8 TB
Reliability	MTBF @ 25°C	>2,000,000 hours		
	Number of Insertions	10,000 minimum		
Dimensions: L x W x H (mm)		100.0 x 69.9 x 7 / 9.2		100.0 x 69.9 x 7.0

Technologies & Add-On Services***									
Premium	●	●	●	●	●	●	●	Δ	Δ
Superior	●	●	●	●	●	●	Δ	Δ	Δ
Value	●	●	●	●	●	●	●	●	●

\* Case Temperature, the composite temperature as indicated by SMART temperature attributes.  
 \*\* Under highest Sequential write value. May vary by density, configuration and applications.  
 \*\*\* Please refer to pages 44-46. Δ: Customization option available on a project basis.  
 For Security-related features and configurations, please refer to page 13.

## mSATA



### Key Features

- MCU-based Power Loss Protection Design\*
- LDPC & RAID Data Recovery
- End-to-End Data Protection
- TRIM / Global Wear Leveling support
- AutoRefresh and Idle Clean F/W algorithm

\* Customization available on a project basis

Product Name		mSATA			
Product Line		Premium		Superior	
Naming		A800Pi	A700Pi	A600Si	A600Sc
Flash Type		SLC	Pseudo SLC	MLC	MLC
Density		8 GB to 128 GB	80 GB to 160 GB	16 GB to 64 GB	
Performance	Sequential Read up to (MB/s)	530	560	440	
	Sequential Write up to (MB/s)	430	520	80	
	Random Read IOPS up to	76,000	94,000	38,400	
Interface		SATA III 6 Gb/s			
Operating Temperature (Tcase)*		-40°C to 85°C		-40°C to 85°C	0°C to 70°C
Endurance TBW** (max.)		10,667 TB	6,400 TB	145.5 TB	174.6 TB
Reliability MTBF @ 25°C		>2,000,000 hours			
Dimensions: L x W x H (mm)		50.8 x 29.85 x 3.5			

Product Name		mSATA		
Product Line		Superior		Value
Naming		A600Si	A600Sc	A600Vc
Flash Type		TLC	TLC	TLC
Density		120 GB to 480 GB	120 GB to 480 GB	32 GB to 512 GB
Performance	Sequential Read up to (MB/s)	560		560
	Sequential Write up to (MB/s)	440		440
	Random Read IOPS up to	100,000		72,000
Interface		SATA III 6 Gb/s		
Operating Temperature (Tcase)*		-40°C to 85°C	0°C to 70°C	0°C to 70°C
Endurance TBW** (max.)		1,396 TB		590.8 TB
Reliability MTBF @ 25°C		>2,000,000 hours		
Dimensions: L x W x H (mm)		50.8 x 29.85 x 3.5		50.8 x 29.85 x 3.5

Technologies & Add-On Services***									
Premium	●	●	●	●	●	●	●	Δ	Δ
Superior	●	●	●	●	●	●	Δ	Δ	Δ
Value	●	●	●	●	●	●	●	●	●

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