



# PCIe® NVMe M.2 Type 1620 HSBGA SSD

The Global Leader in Specialized Storage and Memory Solutions



## KEY FEATURES

- Steadier performance with Ace Thermal Throttling / Heatsink (HSBGA)
- Optimized Power Consumption
- AES-256 Hardware Encryption
- Hardware Write Protect / Secure Erase
- Secure Boot
- TCG-Opal\*

\* May vary by product and project support

Featuring PCI Express® (PCIe®) interfaces and supporting Generations 3 and 4, ATP NVMe™ M.2 Type 1620 Heatsink Ball Grid Array (HSBGA) SSDs meet the ultra-portability and reliability requirements for space, power, and security-critical environments. Designed to overcome cramped spaces, heat, power limits, and data threats, the soldered design provides resistance against vibrations and shocks, while the tiny footprint takes up minimal space. For customers who prefer a removable and field-replaceable design, ATP can accommodate the HSBGA onto an M.2 2230 module with the same firmware and NAND configuration.

ATP NVMe M.2 HSBGA SSDs are enhanced with Ace Thermal Throttling (AceTT) Technology with up to 18 finely tuned, gradual throttling stages. HSBGA SSDs configured with Gen4 x2 lanes operate with energy efficiency that translates to 20% power savings during typical operation and 40% when idle.

To ensure that data is protected from malicious access, selected ATP M.2 SSDs are equipped with Self-Encrypting Drive (SED) features, such as Advanced AES 256-bit encryption, HW Write Protect, HW Secure Erase, and optional TCG Opal 2.0.

## Specifications

Product Line	Premium	Superior	Premium	Value		
	N701Pi / N701Pc	N601Si / N601Sc	N700Pi / N700Pc	N600Vi / N600Vc		
Interface	PCIe G4 x2 <sup>1</sup>		PCIe G3 x4			
Flash Type	3D TLC (pSLC mode)	3D TLC	3D TLC (pSLC mode)	3D TLC		
Form Factor	M.2 1620, HSBGA, 291-Ball					
Operating Temperature	-40°C to 85°C / 0°C to 70°C					
Power Loss Protection Options	Firmware Based					
Optional SED Features	AES 256-bit Encryption, TCG Opal 2.0			-		
Capacity	80 GB to 320 GB	240 GB to 960 GB	40 GB to 160 GB	120 GB to 480 GB		
Performance						
Sequential Read (MB/s) up to	3,565	3,560	2,000	2,050		
Sequential Write (MB/s) up to	3,280		1,600	1,550		
Random Reads IOPS up to	630,000		135,600	138,000		
Random Writes IOPS up to	755,000		112,000	112,600		
Endurance and Reliability						
Endurance (TBW) <sup>2</sup> up to	29,235 TB	2,810 TB	4,280 TB	765 TB		
Reliability MTBF @ 25°C	>3,000,000 hours		>2,000,000 hours			
Others						
Dimensions (mm)	16.0 x 20.0 x 1.6					
Certifications	RoHS, REACH					
Warranty	1 year					

1 The N701/N601 is configured with x2 lanes by default, but x4 lanes may be available by project or customer request.

2 Under highest Sequential write value. May vary by density, configuration and applications.

Technologies	S.M.A.R.T./Life Monitor	Ace Thermal Throttling	Industrial Temperature	SiP	Vibration-Proof BGA Package	Firmware-Based Data-At-Rest Power Loss Protection	Advanced Wear Leveling	AutoRefresh	Dynamic Data Refresh	Auto-Read Calibration	ETEDP	SED	Software Secure Erase	Hardware Secure Erase	Hardware Write Protect
Premium N701Pi / N701Pc	○	○	○	○	○	○	○	○	○	○	○	▲	○	○	○
Superior N601Si / N601Sc	○	○	○	○	○	○	○	○	○	○	○	▲	○	○	○
Premium N700Pi / N700Pc	○		○	○	○	○	○	○	○	○	○	○	○		
Value N600Vi / N600Vc	○		○	○	○	○	○	○	○	○	○	○	○		

▲: Customization option available on a project basis.



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**WE BUILD WITH YOU**

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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