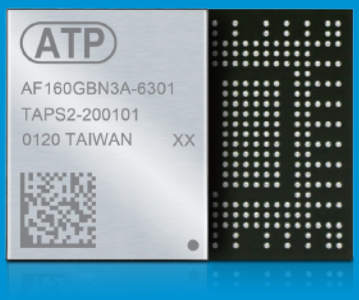
NVMe HSBGA
Embedded Flash Storage Solution

Industrial-Grade Performance, Extreme Endurance & Reliability



Key Features

- PCIe Gen3 x4, NVMe 1.3, M.2 Type 1620
- pSLC mode with 2X-3X of Sustainable Performance*
- High/Stable performance with Optimized Thermal Throttling Firmware/Heatsink (HSBGA)
- Optimized Power Consumption: 5 mW during Power State 4
- DRAM-less configuration supporting HMB (Host Memory Buffer)*
- Optional Security features available **

* Under highest Sequential write value. May vary by density, configuration and applications.
**Optional, by project support.

Despite their ultra-small form factor, ATP's N700 Series NVMe Heat Sink Ball Grid Array (HSBGA) solid state drives (SSDs) surprisingly pack a mean punch. These SSDs with high-speed PCIe 3.0 interface x4 lanes and NVMe protocol deliver up to 32 Gb/s bandwidth at 8 Gb/s per lane, while dimensions of just 16 (L) x 20 (W) x 1.6 (H) mm, the M.2 Type 1620 form factor, and 291-ball packaging take up minimal space within tightly confined systems.

N700 Series SSDs are configured with pseudo single-level cell (pSLC) NAND flash. By storing only one bit per cell, they increase the reliability and lifetime of the NAND flash memory, while benefiting from the lower cost compared with native SLC,due to the higher cell density.

These diminutive powerhouses store hefty capacities of 40/80/160 GB and are packed with advanced features to meet the ultra-portability and reliability requirements of ultra-compact Internet of Things (IoT) devices and embedded systems. They provide high-speed reliable storage in harsh environments such as in transportation, aerospace, smart factories, mining operations, steel fabrication and more.

Technologies & Add-On Services	S.M.A.R.T.	Hardware-based Power Loss Protection	AutoRefresh	Dynamic Data Refresh	End-to-End Data Protection	Auto-Read Calibration	TCG Opal 2.0	Industrial Temperature	SiP	Vibration-Proof BGA Package
Premium	○	○	○	○	○	○	▲	▲	○	○

▲: Customization option available on a project basis.

Specifications

HSBGA M.2, Type 1620		
Product Line	Premium	
	N700Pi	N700Pc
Interface	PCIe G3 x4, NVMe 1.3	
Flash Type	Pseudo SLC	
Form Factor	291-Ball, HSBGA	
Operating Temperature (Tcase)[1]	-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	40 GB / 80 GB / 160 GB	
Performance		
Sequential Read (MB/s) up to	2,000	
Sequential Write (MB/s) up to	1,600	
Random Reads IOPS (4K, QD32) up to	95,000	
Random Writes IOPS (4K, QD32) up to	75,000	
Endurance and Reliability		
Endurance (TBW)[2] up to	4,280 TB	
Reliability MTBF @ 25°C	>2,000,000 hours	
Others		
Dimensions: L x W x H (mm)	16.0 x 20.0 x 1.6	
Certifications	RoHS, REACH	
Warranty	One Year	

1 Case Temperature, the composite temperature as indicated by SMART temperature attributes.
2 Under highest Sequential write value. May vary by density, configuration and applications.

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