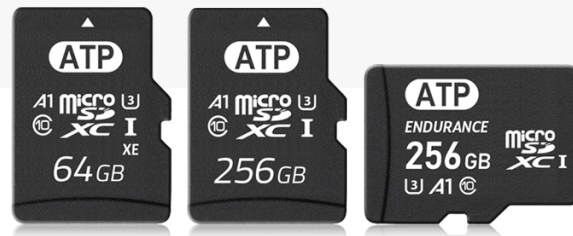# microSD/microSDHC/microSDXC Card

The Global Leader in Specialized Storage and Memory Solutions

KEY FEATURES

- High endurance
- Low latency
- Robust data integrity*
  (AutoRefresh and Dynamic Data Refresh)
- Power Loss Protection for data at rest

- I-Temp operable* (-40°C to 85°C)
- Low capacity for legacy usage
- Water/Dustproof and ESD-resistant System-in-Package design
- SD Life Monitor*

*May vary by product and project support

These tiny yet feature-rich and reliable removable storage solutions are used extensively in data logging, navigation and surveillance systems, in-vehicle infotainment (IVI), drive recorders, and other demanding applications.

To ensure data integrity, ATP microSD cards feature AutoRefresh read disturb protection and Dynamic Data Refresh data retention management technologies to prevent errors in frequently read and seldom-accessed areas.
The Sudden Power-Off Recovery (SPOR) mechanism recovers valid data during voltage fluctuations or power loss events.

ATP microSD cards in 3D triple level cell (TLC) NAND flash come in capacities up to 512 GB. They feature 4KB page management and SLC caching algorithm, which allows 1/2 random access time and low latency compared with traditional solutions.
These cards meet Android A1 application performance (SDA spec) and consume less power, making them suitable for small handheld devices with limited battery life.

Specifications

Product Line	Premium			Superior	
	S800Pi	S750Pi / S750Pc	S700Pi / S700Pc	S650Si / S650Sc	S600Si / S600Sc
Interface	512 MB to 2 GB, HS mode 4 GB to 8 GB, UHS-I	UHS-I			
Flash Type	SLC	3D TLC (pSLC mode)	2D MLC (pSLC mode)	3D TLC	2D MLC
Form Factor	microSD Card				
Operating Temperature	-40°C to 85°C	-40°C to 85°C / -25°C to 85°C			
Power Loss Protection Options	Firmware Based				
Optional SED Features	-				
Capacity	512 MB to 8 GB	16 GB to 128 GB	4 GB to 8 GB	64 GB to 512 GB	8 GB to 16 GB
Performance					
Sequential Read (MB/s) up to	81	95	96	95	97
Sequential Write (MB/s) up to	39	80	81	70	36
Endurance and Reliability					
Endurance (TBW)[1] up to	192 TB	12,670 TB	240 TB	5,500 TB	48 TB
Reliability MTBF @ 25°C	>5,000,000 hours	>3,000,000 hours		>3,000,000 hours	>3,000,000 hours
Reliability Number of Insertions	20,000 (SDA spec minimum 10,000)				
Others					
Dimensions (mm)	15.0 x 11.0 x 1.0				
Certifications	CE, FCC, UKCA, RoHS				
Warranty	5 years			2 years	

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

Technologies		S.M.A.R.T/ Life Monitor	Industrial Temperature	SiP	Firmware-Based Power Loss Protection	Advanced Wear Leveling	AutoRefresh	Dynamic Data Refresh	Auto-Read Calibration
Premium	S800Pi	▲	○	○	○	○			
Premium	S750Pi / S750Pc	▲	○	○	○	○	○	○	○
Premium	S700Pi / S700Pc	▲	○	○	○	○	○	○	
Superior	S650Si / S650Sc	▲	○	○	○	○	○	○	○
Superior	S600Si / S600Sc	▲	○	○	○	○	○	○	

▲: Customization option available on a project basis.

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