

Memory Cards

SD/miniSD/microSD



ATP flash products are designed to perform consistently under conditions of extreme temperature, shock, vibration, and humidity. ATP SD,miniSD, and microSD cards are optimized for demanding industrial applications such as military, automotive, aviation, where mission-critical data requires the highest levels of reliability, durability, and data integrity.

Meanwhile, ATP SD,miniSD, and microSD cards are suitable for removable devices and small form factor devices. These features are ideal for removable storage devices, ex: Automation OS or application program and Map system in Automotive.

With ATP's SIP (System-In-Packaging) manufacturing process, ATP Industrial Grade SD/miniSD/microSD cards can withstand an operating/storage temperature range up to -40 to 85 degrees Celsius. 100% of all ATP Industrial Grade products go through multi data pattern burn in testing. This is to screen against any possible early fallout occasionally seen in any semiconductor technology.

The ATP SD/miniSD/microSD cards have been tested and qualified by major handheld companies such as Motorola and Honeywell. These products are ideal for automotive IVI, point of sales, enterprise mobility, and embedded/industrial applications. Furthermore, Read Disturb Protector – AutoRefresh technology assures the data integrity at the same time.



Key Features

- SLC (Single-Level-Cell) NAND Flash with longer lifespan
- Advanced Wear Leveling algorithm
- Bad Block Management
- Read Disturb Protector - AutoRefresh to ensure data integrity during read operation
- Support SD life monitor tool for lifespan check (Windows / Linux)
- IP57/IP67 waterproof/Dustproof test (IEC 60529)
- Highly reliable and pass environmental test (Bend/Torque/Salt Spray/Solar radiation)
- ESD resistance

Specifications

Model Name	SD/SDHC		microSD/microSDHC	
Flash Type	SLC	MLC	SLC	MLC
Density	512MB to 16GB	32GB	512MB to 8GB	32GB
Performance	Sequential Read up to 20MB/s	Sequential Read up to 20 MB/s	Sequential Read up to 20MB/s	Sequential Read up to 20MB/s
	Sequential Write up to 18MB/s	Transfer Rate Write Speed: Class 10	Sequential Write up to 18MB/s	Sequential Write up to 15MB/s
Operating	-40°C to +85°C	-25°C to 85°C	-40°C to 85°C	-25°C to 85°C
Reliability	Advanced Static/Dynamic Wear-Leveling			
	TBW** (max.) : 96 Tera-Bytes	TBW** (max.) : 19.2 Tera-Bytes	TBW** (max.) : 48 Tera-Bytes	TBW** (max.) : 19.2 Tera-Bytes
	MTBF @25°C: >2,000,000 hours			
	Number of Insertions: 10,000 minimum			
Dimensions: LxWxH (mm)	32.0 x 24.0 x 2.1		15.0 x 11.0 x 1.0	
Weight (max.)	2.0 g		0.4 g	

*Available on a project basis.
**All TBW data listed are under random write value in each product line.
The TBW data are subject to change by density, configuration and customers' applications.

Applications

- Industrial Grade PC
- Handheld Computing Device
- Medical Equipment
- Automation
- Automotive
- Test and Measurement
- Surveillance systems
- Drive recorders

Memory Cards

UHS-I SD/USH-I microSD



Supporting SD Memory Card Specification Ver. 3.01, ATP UHS-I (Ultra High Speed 1) SD/microSDHC cards support up to 71MB/s; almost 3 times faster than conventional high speed SD/microSDHC cards. ATP UHS-I SD/microSDHC memory cards implement Advanced Wear Leveling algorithm and bad block management to prolong the life time of the cards. Furthermore, Read Disturb Protector – AutoRefresh technology assures the data integrity at the same time. With the ATP tailor-made F/W algorithm, the risk of sudden power-off is also minimized.

Given the high performance, reliability and compatibility of ATP UHS-I SD/microSDHC memory cards, they are recommended for intensive read operation such as, automotive IVI and navigations systems. They are also ideal for intensive write operations such as, surveillance systems, drive recorders, and IP cameras.

Key Features

- Compliant with SD Specification version 3.01
- Supports SD mode
- High reliability, operating at -25°C to 85°C
- Supports dual voltage 3.3V and 1.8V I/O (The operating voltage is still 2.7V ~ 3.3V)
- Enhanced endurance with Advanced Static/Dynamic Wear-Leveling
- Read Disturb Protector - AutoRefresh technology to ensure data integrity especially in frequent read operations
- Enhanced F/W algorithm to minimize the risk of a sudden power-off
- Support BCH ECC engine up to 72bits/1Kbyte

Applications

- Automotive IVI systems
- Navigations
- Surveillance systems
- Drive recorders
- Network cameras

Specifications

Model Name	UHS-I SD/SDHC	UHS-I microSD
Flash Type	MLC	
Density	8G/16GB	
Performance	Sequential Read up to 71.8MB/s Sequential Write up to 23.5MB/s	Sequential Read up to 70.2MB/s Sequential Write up to 23MB/s
Operating	-25°C to +85°C	
Reliability	Advanced Static/Dynamic Wear-Leveling	
	Enhanced F/W algorithm to minimize the risk of a sudden power-off	
	TBW** (max.) : 9.6 Tera-Bytes	
	MTBF @25°C: >2,000,000 hours	
Dimensions: LxWxH(mm)	32.0 x 24.0 x 2.1	15.0 x 11.0 x 1.0
Weight (max.)	2.0 g	0.4 g

*Available on a project basis.
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