



# ATP Industrial Grade SD/SDHC/SDXC

Targeted Product Portfolio, Engineered Specifically for Your Mission Critical Applications



ATP Industrial Grade SD/SDHC/SDXC cards are designed for application in demanding industries, such as automotive, healthcare, and aviation, where critical data requires the highest level of reliability, durability, and data integrity. They are also suitable for removable application and small footprint mechanism devices.

ATP SD cards with read disturb protector-AutoRefresh technology and Autoscan features are best suited for read intensive applications. For instance in the automotive industry, ATP SD cards have been recognized by worldwide major tier 1 Auto Infotainment Suppliers and tier 2 telematics electronic vehicle system developers/service providers for their map system, IVI (in-vehicle-infotainment), and OS boot-up. On the other hand, ATP SD cards with SLC mode and Power cycling solution are ideal for write intensive applications. Such applications include data logging and storage of hospital medical devices and surveillance systems.

Moreover, with ATP's SIP (System-In-Packaging) manufacturing process, the operating/ storage temperature of ATP Industrial Grade SD cards is -40 to 85 degrees Celsius. All ATP Industrial Grade products go through multi data pattern burn in test. This is to screen for early fallout occasionally seen in any semiconductor technology.

## Key Features

- SLC (Single-Level-Cell) NAND flash and MLC (Multi-Level Cell / 2-bit per Cell) NAND Flash
- Advanced Wear Leveling algorithm
- Bad Block Management
- Read Disturb Protector - AutoRefresh to ensure data integrity during read operation
- IP67 waterproof/Dustproof test (IEC 60529)
- Highly reliable and pass environmental test (Bend/Torque/Salt Spray/Solar radiation)
- ESD resistance
- Life Monitor (Note : The compatibility and support of Life Monitor may vary on different platform/operation system)

## Applications

- Industrial PC
- Medical devices
- Automation
- Automotive IVI systems
- Test and Measurement
- Surveillance systems
- Drive recorders
- Navigations
- Network cameras
- Mobile/Handheld computers



## Specifications

Product Name	SD/SDHC/SDXC				
Flash Type	SLC	aMLC	iTemp aMLC	MLC	iTemp MLC
Density	512MB to 8GB	4GB to 32GB		8GB to 128GB	8GB to 32GB
Performance	Sequential Read up to 69 MB/s	Sequential Read up to 95 MB/s		Sequential Read up to 96 MB/s	Sequential Read up to 94 MB/s
	Sequential Write up to 39 MB/s	Sequential Write up to 79 MB/s		Sequential Write up to 78 MB/s	Sequential Write up to 38 MB/s
Interface	High Speed Mode Class 6 (512MB to 2GB) Class 10 (4GB to 8GB) Ultra High Speed Mode UHS-I, U1 (4GB to 8GB)	Ultra High Speed Mode UHS-I, U3		Ultra High Speed Mode UHS-I, U1 (8GB to 128GB)	
Operation Temperature	-40°C to +85°C	-25°C to +85°C	-40°C to +85°C	-25°C to +85°C	-40°C to +85°C
Reliability	Advanced Static/Dynamic Wear-Leveling/ AutoRefresh & Dynamic Data Refresh**				
	TBW*(max.): 192 TB	TBW*(max.): 256 TB		TBW*(max.): 153 TB	TBW*(max.): 38.4 TB
	MTBF@25°C: >5,000,000 hours	MTBF@25°C: >3,000,000 hours		MTBF@25°C: >2,000,000 hours	
	Number of Insertions: 10,000 minimum				
Dimensions: LxWxH (mm)	32.0 x 24.0 x 2.1				

\* All TBW data listed are under highest sequential write value in each product line. The TBW data are subject to change by density, configuration and customers' applications.

\*\*Available on a project basis.

## Ordering Information

Density	SLC	aMLC	iTemp aMLC	MLC	iTemp MLC
512MB	AF512SDI-ZADXM	-	-	-	-
1GB	AF1GSDI-ZADXM	-	-	-	-
2GB	AF2GSDI-ZAEXM	-	-	-	-
4GB	AF4GSDI-WADXM	AF4GSD3A-WABXM AF4GSD3A-WAAXX	AF4GSD3A-WABIM AF4GSD3A-WAAIX	-	-
8GB	AF8GSDI-WADXM	AF8GSD3A-WABXM AF8GSD3A-WAAXX	AF8GSD3A-WABIM AF8GSD3A-WAAIX	AF8GSD3-WABXM AF8GSD3-WACXM	AF8GSD3-WABIM AF8GSD3-WACIM
16GB	-	AF16GSD3A-WAAXX	AF16GSD3A-WAAXX	AF16GSD3-WACXM AF16GSD3-WADXM	AF16GSD3-WACIM AF16GSD3-WADIM
32GB	-	AF32GSD3A-WAAXX	AF32GSD3A-WAAXX	AF32GSD3-WABXM AF32GSD3-WABXM	AF32GSD3-WABIM AF32GSD3-WACIM
64GB	-	-	-	AF64GSD3-WACXM	AF64GSD3-WADIM
128GB	-	-	-	AF128GSD3-WAAXM	-

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