

Pretec ISD

Industrial SD Card Specification for SD 2.0 (SDHC) Version 1.2

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C-One Technology corp.

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1 Description

Pretec ISD is an Industrial grade SD/MMC compatible memory card. To fulfill more requirements from our customer. Pretec ISD provides more protection and able to meet extreme environment, such as high humidity, salt spray, bending test, plug cycle test and drop test. Also, we provide the most reliable feature in industrial field- The 15-bit ECC function, which can ensure the reliability of your valuable data

2 Scope

This document describes the key features and specifications of the Industrial Grade SD Card, as well as the information required to interface this product to a host system.

3 Product Information

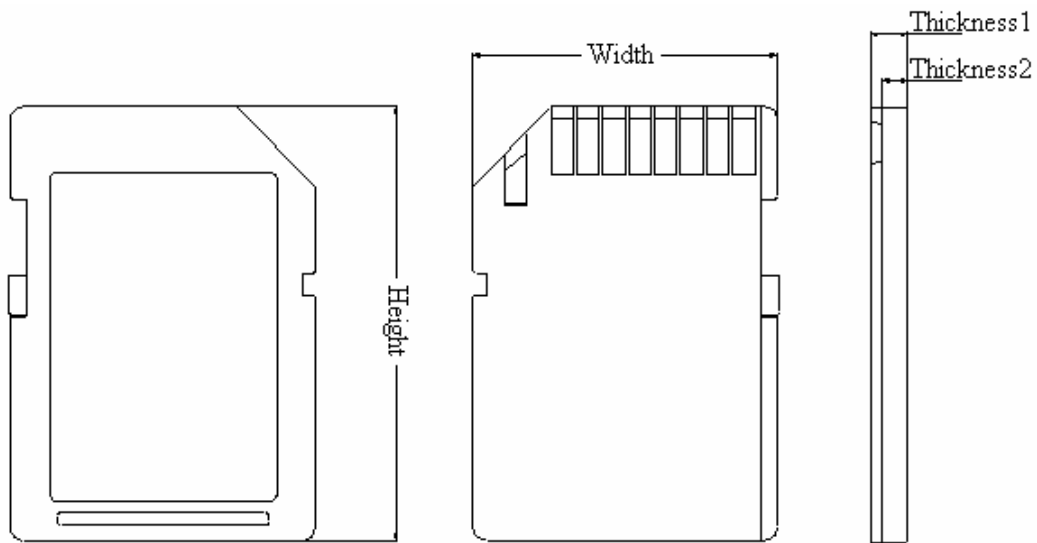
3.1 Product Models

Model	Capacity	Class Speed
SD Card 2GB	2048MB	Class 4
SD Card 4GB	4096MB	Class 4
SD Card 8GB	8192MB	Class 2

3.2 Product Features:

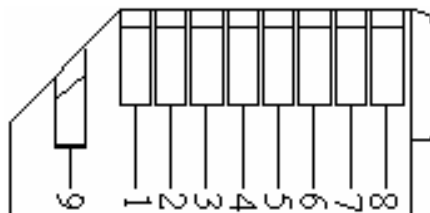
- Fully compliant with SD 2.0 standard.
- Up to 8 GB of data storage.
- Two alternative communication protocols: SD/SPI Mode.
- Copyrights Protection Mechanism—Complies with highest security of SDMI standard.
- Card Detection (Insertion/Removal).
- 100 % compatible with SD and MMC applications.
- Variable clock rate : 0-50 MHz
- Voltage range: 2.7V ~ 3.6 V.
- Maximum 10MB/sec in read/write mode – 4 data lines
- Interface comprising 9 pins (clock, Command, 4 x data, 3 x lower lines).

3.3 Dimension:



Width	Thickness1	Thickness2	Height	Weight
24±0.1mm	2.1±0.1mm	1.4±0.1mm	32±0.1mm	2±0.1g (single chip)

3.4 Pin Definition



Pin#	SD Mode			SPI Mode		
	Name	Type	Description	Name	Type	Description
1	CD/DAT3	I/O/PP	Card Detect/Data Line [Bit 3]	CS	I	Chip Select
2	CMD	PP	Command/Response	DI	I	Data In
3	V _{SS1}	S	Supply voltage ground	V _{SS}	S	Supply voltage ground
4	V _{DD}	S	Supply voltage	V _{DD}	S	Supply voltage
5	CLK	I	Clock	SCLK	I	Clock
6	V _{SS2}	S	Supply voltage ground	V _{SS2}	S	Supply voltage ground
7	DAT0	I/O/PP	Data Line [Bit 0]	DO	O/PP	Data Out
8	DAT1	I/O/PP	Data Line [Bit 1]	RSV		
9	DAT2	I/O/PP	Data Line [Bit 2]	RSV		

4 Performance

Depend on flash.

5 Product Specifications

5.1 Environmental Specifications

Item	Condition
Temperature (Storage)	-65°C to 150°C
Temperature (Operation)	-40°C to 85°C
Humidity	25% to 95%
Salt atmosphere	3% NaCl
ESD Protection	±4kV HBM
Vibration	15G (Peak to Peak)
Shock	1kG Max

5.2 Reliability and Durability

Item	Duration
Durability	10,000 mating cycles
Drop Test	1.5m free fall
Visual Inspection/Shape and Form	No warp age; no mold skin; complete form; no cavities; surface smoothness ≤ -0.1 mm/cm ² within contour; no cracks; no pollution.
MTBF	> 1,000,000 hrs