Industrial Secure Digital Card

(Reference Design)

Phison's industrial SD 3.0 card is based on 9-pin interface and well adapted for hand-held applications in semi-industrial/medical markets. With customized firmware technique, Phison's Industrial SD 3.0 can be configured with pSLC SD Mode for outstanding performance along with better P/E cycles. Moreover, Phison's industrial SD card underwent rugged testing environments to ensure that it can stay at the top of the industry in terms of withstanding the most rugged and unforgiving environments.
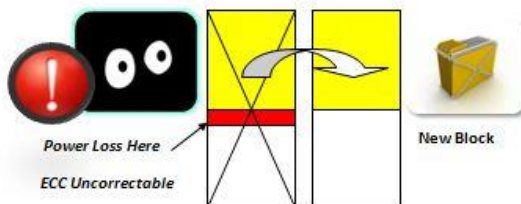
Product Feature

Reliable

Auto-Read Refresh Management

□ Blocks will be accessed continuously, some industrial application device keep reading but not writing and couldn't do wear leveling.
□ To avoid errors become more than ECC can cover and the block turns bad, when error number within one block is approaching a Threshold level, Phison firmware will refresh the bit errors automatically

Smarter

Unexpected Power Off Management

□ Power loss during write data to block, Phison firmware will check the block was written before power loss for next power up.
□ If ECC Uncorrectable, Phison firmware will copy the correct data before ECC uncorrectable occurred to new block and erase the old block.

Care

SMART Monitor Tool

□ Customized logo of tool
□ SMART Info tool can read reliability by estimating endurance life, good block ratio, erase count, etc.
□ No need any special hardware tool to read SD card, all the information can be read by card reader.

Main use	Common interfaces
Storage, Recording, Back up, Boot device, Database	GPS, Drive recorder, Server, Industrial PC/machines, Medical devices.

Specification

Solution	PS8035	PS8032	PS8210
Capacity	128MB~4GB	2~64GB	128MB~64GB
Compliance	SDA 2.0/3.0 SDHC	SDA 2.0/3.0 SDHC	SDA 2.0/3.0 SDHC
Flash Memory	SLC	MLC/pSLC	SLC/MLC/pSLC
Performance*1	Read: up to 23 MB/s Write: up to 19 MB/s	Read: up to 28 MB/s Write: up to 27 MB/s	Read: up to 90 MB/s Write: up to 45 MB/s
Power Consumption*1	Active mode: < 330 mW		
General Applications	Drive recorder, Navigation system/GPS	Navigation System/GPS, Surveillance system, Industrial PC/Server	Media Producer, HD video recording
Operating Voltage	DC 3.3V		
Operating Temperature	-25°C ~ 85°C (Gold) -40°C ~ 85°C (Diamond)		
Reliability*2	SDA, IEC-60068, MIL-STD-810, ISTA 2 Series, IEC-60529		
MTBF	More than 3,000,000 hours		
Quality	Products are tested with both operational and non-operational status to ensure the highest qualities.		

*1 Performance and Power Consumption may differ according to flash type, flash configuration, and platform.

*2 All reliability tests follow international standards

Features Support

○: Optional   ◎: Default

Solution	1	2	3	4	5	6	7	8
PS8032 SD/micro SD	◎	◎	○	○	○	◎	○	◎
PS8035 SD/micro SD	◎	◎	○	○	○			◎
PS8210 SD/micro SD	◎	◎	○	○	○	◎	○	◎

1. Auto Read Refresh   5. SMART Function

2. Static/Dynamic Wear leveling   6. Class 10/UHS-1

3. PPMS (power lost protection)   7. pSLC

4. Embedded mode   8. Water Proof

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