



Features

- Enhanced MLC-NAND flash by sophisticated aSLC firmware
- Support SD mode and SPI mode
- Support CPRM
- Support UHS-1
- Write Protect switch
- Support S.M.A.R.T. command set and utility
- Capacities from 4GB up to 128GB

- **Compatibility** SDA3.0
- **SDHC** 4GB to 32GB: FAT16 file system
- **SDXC** 64GB to 128GB: exFAT
- **Declaration** RoHS & REACH compliant
- **Flash technology** MLC-NAND flash technology
- **Form-factor** Standard SD card form-factor
- **Host interface** 9-pin connector
- **Write Protection** Mechanical switch
- **Performance**
- **Data transfer rate** Class-10
- **Sequential read** SDHC: 99.5 MB/sec (Max.)
SDXC: 99.8 MB/sec (Max.)
- **Sequential write** SDHC: 92.7 MB/sec (Max.)
SDXC: 93.5 MB/sec (Max.)
- **Environmental**
- **Operating temp.** Wide Temp. -40°C~+85°C
- **Non-operating temp.** Wide Temp. -50°C~+95°C

- **Humidity** 10% ~ 95% non-condensing
- **Vibration** 80 Hz to 2K Hz, 20G, 3axes
- **Shock** 0.5ms, 1500G, 3 axes
- **Altitude** 70,000 feet
- **Power consumption**
- **Power requirement** +3.3V ± 10%
- **Reading mode** 400 mA (Max.)
- **Writing mode** 400 mA (Max.)
- **Idle (Standby) mode** 1000 uA (Max.)
- **Reliability**
- **Wear-leveling** Static and Dynamic wear-leveling algorithms
- **Erase counts** Up to 20,000 times
- **ECC** BCH ECC
- **Physical specification**
- **Weight (Max.)** 2.5g
- **Dimension (WxLxH)** 24.0 x 32.0 x 2.1 (mm)
- **Warranty** 2 years or within 20,000 erasing counts

Part Number List

SDHC memory card				SDXC memory card			
Capacity		-40°C~+85°C		Capacity		-40°C~+85°C	
4GB		WPSDH004G-PFITMBAS		64GB		WPSDX064G-PFITMBAS	
8GB		WPSDH008G-PFITMBAS		128GB		WPSDX128G-PFITMBAS	
16GB		WPSDH016G-PFITMBAS					
32GB		WPSDH032G-PFITMBAS					

Part Number Decoder

X1	X2	X3	X4	X5	X6	X7	X8	X9	X10	X11	X12	X13	X14	X15	X16	X17	X18	X19	X20
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Example 1

W	P	S	D	H	0	3	2	G	-	P	F	I	T	M	B	A	S		
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Example 2

W	P	S	D	X	1	2	8	G	-	P	F	I	T	M	B	A	S		
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X1 Grade

W : Wide temp grade operating temp. -40°C~+85°C

X2 The material of casing

P : Plastic casing

X3 X4 X5 Product category

SDH : SDHC memory card
SDX : SDXC memory card

X6 X7 X8 X9 Capacity

004G : 4GB 032G : 32GB
008G : 8GB 064G : 64GB
016G : 16GB 128G : 128GB

X11 Controller

P : PHANES Series

X12 Controller version

A, B, C, D.....

X13 Controller grade

I : Industrial grade

X14 Flash IC brand

T : Toshiba NAND flash IC

X15 Flash IC type

M : MLC-NAND flash IC

X16 MLC Technology

B : Toshiba 15nm MLC

X17 X18 aSLC Technology

AS : aSLC Technology extends MLC products' lifespan

X19 X20 Reserved for specific requirements

SLC
 aSLC
 MLC
 3D-NAND
 DRAM Module
 Adapter
 Card-drive