

PHANES-F Series

MLC MicroSD Memory Card / SD Memory Card Specification 3.0




Product Feature

- MLC - NAND type flash technology
- Support SD mode and SPI mode
- Support UHS-1
- Support CPRM
- RoHS & REACH compliant
- micro SD card Capacity from 8GB to 64GB

Product Specification

Compatibility	<ul style="list-style-type: none"> ■ SD Memory Card Specifications, Part 1 Physical Layer Specification, version 3.1 Final ■ SD Memory Card Specifications, Part 3, Security Specification, Version 3.0 Final 	Power consumption	<ul style="list-style-type: none"> ▶ +3.3V ± 10% ▶ 400 mA (Max.) ▶ 400 mA (Max.) ▶ 1000 uA (Max.)
Flash technology	<ul style="list-style-type: none"> ■ MLC-NAND type flash memory 	Power requirement	<ul style="list-style-type: none"> ▶ 400 mA (Max.) ▶ 400 mA (Max.) ▶ 1000 uA (Max.)
Form-factor	<ul style="list-style-type: none"> ■ Standard MicroSD card form-factor 	Reliability	<ul style="list-style-type: none"> ▶ 10,000 inserting cycles ▶ 0.1N ± 2.5 deg. ▶ Static and Dynamic wear-leveling algorithms
Host Interface	<ul style="list-style-type: none"> ■ 8-pin connector 	Durability	<ul style="list-style-type: none"> ▶ Up to 3,000 times
Performance	<ul style="list-style-type: none"> ■ Class-10 	Torque	<ul style="list-style-type: none"> ▶ BCH ECC
Sequential read	<ul style="list-style-type: none"> ▶ 99.8 MB/sec 	Wear-leveling	
Sequential write	<ul style="list-style-type: none"> ▶ 92.9 MB/sec 	Erase counts	
Environmental specification		ECC	
Operating temp.	<ul style="list-style-type: none"> ▶ IND. -40°C~+85°C 	Physical specification	
Non-operating temp.	<ul style="list-style-type: none"> ▶ IND. -50°C~+95°C 	Weight	<ul style="list-style-type: none"> ▶ 0.3 g / 0.01 oz. (Max.)
Humidity	<ul style="list-style-type: none"> ▶ 10% ~ 95% non-condensing 	Dimension(W x L x H)	<ul style="list-style-type: none"> ▶ 11.0 x 15.0 x 1.0 (mm)
Vibration	<ul style="list-style-type: none"> ▶ 20 Hz to 2K Hz, 20G, 3 axes 	Warranty	
Shock	<ul style="list-style-type: none"> ▶ 0.5ms, 1,500G, 3 axes 	MLC(standard/wide temp.)	<ul style="list-style-type: none"> ▶ 2 years or within 3K Erasing counts
Altitude	<ul style="list-style-type: none"> ▶ 70,000 feet 		

Part Number List

Product Picture	Capacity	- 40°C ~ + 85°C
	8GB	WPMSD008G-PFITMB
	16GB	WPMSD016G-PFITMB
	32GB	WPMSD032G-PFITMB
	64GB	WPMSD064G-PFITMB

Part Number Decoder

X1 X2 X3 X4 X5 X6 X7 X8 X9 — X11 X12 X13 X14 X15 X16 — X18 X19 X20

Example ▶

W P M S D 0 6 4 G — P F I T M B —

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

MSD : Micro SD memory card

X6 X7 X8 X9 Capacity

008G : 8GB 032G : 32GB

016G : 16GB 064G : 64GB

X11 Controller

P : PHANES Series

X12 Controller version

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

X13 Controller grade

I : Industrial grade

X14 Flash IC brand

T : Toshiba flash IC

X15 Flash IC type

M : MLC-NAND flash IC

X16 MLC Technology

B : Toshiba 15nm MLC

X18 X19 X20 Reserved for specific requirement