

HERCULES-A Series

(Rugged Metal) MLC CompactFlash (CF) Card



Product features


- MLC - NAND type flash technology
- Compatible with ATA/ATAPI-6 standard
- Compatible with CompactFlash® specification 4.1
- Data transfer mode support PIO 0-6, UDMA 0-5
- CompactFlash® Type I form-factor
- Performance up to 45.4 MB/sec
- Optional for standard casing and rugged metal casing
- Capacity from 1GB up to 16GB

Product specifications


Compatibility	ATAPI-6 and True IDE mode	Power consumption	Power requirement	+5V ± 10% / +3.3V ± 5%
Flash technology	MLC-NAND type flash based	Reading mode	60.1mA (Max.)	
Form-factor	CompactFlash type I	Writing mode	85.6mA (Max.)	
Host Interface	Female 50 pins	Sleeping mode	7.8mA (Max.)	
Performance		Reliability		
Data transfer mode	PIO-4 mode or UDMA-4 mode (def.)	Wear-leveling	Static wear-leveling algorithms	
Data transfer rate	66.6MB/sec (ATA-5 / UDMA-4)	ECC	4 bits per 512bytes block	
	16.6MB/sec (ATA-3 / PIO-4)	Physical specification		
Sequential read	45.4 MB/sec (Max. /with dual flash)	Weight (max.)	Standard casing 12.0 g / 0.42 oz.	
Sequential write	15.9 MB/sec (Max. /with dual flash)		Metal casing 15.0 g / 0.53 oz.	
Average access time	0.2ms (estimated)	Dimension(W x L x H)	42.8 x 36.4 x 3.3 (mm)	
Environmental specification		Conformal coating	Option for wide temperature	
Operating temp.	STD. 0°C ~ 70°C / IND. -40°C ~ +85°C	Warranty	1 year	
Non-operating temp.	STD. -20°C ~ +80°C / IND. -50°C ~ +95°C			
Humidity	10% ~ 95% non-condensing			
Vibration	15G compliance to MIL-STD-810F			
Shock	1,500G compliance to MIL-STD-810F			
Altitude	70,000 feet			

Operating temperature supports standard grade 0°C ~ 70°C and industrial grade -40°C ~ +85°C

Part number list - MLC CF Card with standard plastic frame kit

Product picture	Capacity	0°C ~ 70°C	-40°C ~ +85°C
	1GB	SPCFC001G-MACMC-UF	WPCFC001G-MACMC-UF/C
	2GB	SPCFC002G-MACMC-UF	WPCFC002G-MACMC-UF/C
	4GB	SPCFC004G-MACMC-UF	WPCFC004G-MACMC-UF/C
	8GB	SPCFC008G-MACMC-UF	WPCFC008G-MACMC-UF/C
	16GB	SPCFC016G-MACMC-UF	WPCFC016G-MACMC-UF/C

Part number list - MLC CF Card with rugged metal frame kit

Product picture	Capacity	0°C ~ 70°C	-40°C ~ +85°C
	1GB	SRCFC001G-MACMC-UF	WRCFC001G-MACMC-UF/C
	2GB	SRCFC002G-MACMC-UF	WRCFC002G-MACMC-UF/C
	4GB	SRCFC004G-MACMC-UF	WRCFC004G-MACMC-UF/C
	8GB	SRCFC008G-MACMC-UF	WRCFC008G-MACMC-UF/C
	16GB	SRCFC016G-MACMC-UF	WRCFC016G-MACMC-UF/C

Remarks:

Industrial grade -40°C ~ +85°C with special conformal coating treatment on PCBA.

The optional data-transfer modes and disk types are -

PF: optional as PIO-4 mode / Fixed disk type

PR: optional as PIO-4 mode / Removable disk type

PA: optional as PIO-4 mode / Fixed disk & removable disk type auto-detection

UF: defaulted as UDMA-4 mode / Fixed disk type

UR: optional as UDMA-4 mode / Removable disk type

UA: optional as UDMA-4 mode / Fixed disk & removable disk type auto-detection

AF: optional as UDMA & PIO mode auto-detection / Fixed disk type

AR: optional as UDMA & PIO mode auto-detection / Removable disk type

AA: optional as UDMA & PIO mode auto-detection / Fixed disk & removable disk type auto-detection

MLC CF

MLC CompactFlash Card

MLC CFast

MLC CFast Card

MLC PCMCIA ATA

MLC PCMCIA ATA Card

MLC MIF

MLC micro IDE Flash Module

MLC MSE

MLC micro SATA Flash Module

MLC MUM

MLC micro USB Module

MLC SSD

MLC Solid State Disk

MLC USB

MLC Rugged Metal USB Flash Disk

MLC SD

MLC SD & SDHC Memory Card

AD

Industrial Adapter Card-Drive

MLC CF

MLC CompactFlash Card

MLC CFast

MLC CFast Card

MLC PCMCIA ATA

MLC PCMCIA ATA Card

MLC MIF

MLC micro IDE Flash Module

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MLC SD & SDHC Memory Card

AD

Industrial Adapter Card-Drive

MLC CF
MLC CompactFlash Card

Part number decoder

X1 X2 X3 X4 X5 X6 X7 X8 X9 — X11 X12 X13 X14 X15 — Z1 Z2 / C

Example

W P C F C 0 0 8 G — M A C M C — U F / C

X1 ▶ **Grade**

S : Standard grade operating temp. 0° C ~ 70 ° C
W : Industrial grade operating temp. -40° C ~ +85 ° C

X2 ▶ **The material of frame kit**

P : Plastic frame kit
R : Rugged metal frame kit

X3 X4 X5 ▶ **Product category**

CFC : CompactFlash (CF) card

X6 X7 X8 X9 ▶ **Capacity**

001G : 1GB **008G** : 8GB
002G : 2GB **016G** : 16GB
004G : 4GB

Z1 Z2 ▶ **Data transfer rate and disk types**

PF: optional as PIO-4 mode / Fixed disk type
PR: optional as PIO-4 mode / Removable disk type
PA: optional as PIO-4 mode / Fixed disk & removable disk type auto-detection
UF: defaulted as UDMA-4 mode / Fixed disk type
UR: optional as UDMA-4 mode / Removable disk type
UA: optional as UDMA-4 mode / Fixed disk & removable disk type auto-detection
AF: optional as UDMA & PIO mode auto-detection / Fixed disk type
AR: optional as UDMA & PIO mode auto-detection / Removable disk type
AA: optional as UDMA & PIO mode auto-detection / Fixed disk & removable disk type auto-detection

X11 ▶ **Controller**

M : SMI (HERCULES Series)

X12 ▶ **Controller version**

A,B,C.....

X13 ▶ **Controller grade**

C : Commercial grade

X14 ▶ **Flash IC**

M : MLC-NAND flash IC

X15 ▶ **Flash IC grade**

C : Commercial grade

C ▶ **Reserved for specific requirement**

C : Conformal-coating

MLC CFast
MLC CFast Card

MLC ATA
MLC PCMCIA ATA Card

MLC MIF
MLC micro IDE Flash Module

MLC MSE
MLC micro SATA Flash Module

MLC MUM
MLC micro USB Module

MLC SSD
MLC Solid State Disk

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MLC SD
MLC SD & SDHC Memory Card

AD
Industrial Adapter Card-Drive