

HERCULES Series

Industrial mini PCI-e Flash (MPM) Module supports Write Protect Function



Product features

- SLC - NAND type flash technology
- Compliant with PCI Express mini CEM Spec. 1.2
- Compact form factor for highly integrated system
- Supports standard ATA command
- Supports high speed PCI Express host bus to 2.5Gbps
- Bootable for system installation
- Supports write protect function by switch
- Performance up to 95.9 MB/sec
- Capacity from 8GB up to 32GB


Product specifications

Compatibility	➤ Compliant with PCI Express mini CEM Spec. 1.2	Write protect function	Mechanism design ➤ By switch
Flash technology	➤ SLC-NAND type flash based	Power consumption	Power requirement ➤ +3.3 V ± 5%
Host Interface	➤ 52 pins mini PCI Express host slot	Reading mode ➤ 353 mA (Max.)	Writing mode ➤ 354 mA (Max.)
Performance	➤ PCI Express x1 lane host bus	Idle mode ➤ 117 mA (Max.)	
Reliability		Reliability	Wear-leveling ➤ Global wear-leveling algorithms
Data transfer mode	➤ Supports high speed PCI Express bus to 2.5Gbps	MTBF ➤ > 2,000,000 hours	ECC ➤ 8 bits or 15 bits per 512 bytes block
Sequential read	➤ 95.9 MB/sec (Max. /4-channel)	Endurance ➤ > 2,000,000 cycles	Data retention ➤ 10 years
Sequential write	➤ 75.0 MB/sec (Max. /4-channel)	Physical specification	
Random access time	➤ 0.3 ms	Weight (max.) ➤ 19.0 g ± 2 g / 0.684 oz.	Dimension(W x L x H) ➤ 30.00 x 50.95 x 6.90 (mm)
Environmental specification		Conformal coating ➤ Option for special request	
Operating temp.	➤ STD. 0°C ~ 70°C / IND. -40°C ~ +85°C	Warranty	
Non-operating temp.	➤ STD. -20°C ~ +80°C / IND. -50°C ~ +95°C	Standard grade ➤ 3 years	
Humidity	➤ 10% ~ 95% non-condensing	Industrial grade ➤ 5 years	
Vibration	➤ 6.95 Grms 30 minutes per axis, 1 time in each axis / MIL-STD 810G		
Shock	➤ 1500 G, Pulse width: 0.5msec, 18 times (6 directions) / MIL-STD 810G		
Altitude	➤ 70,000 feet		

Write-protect switch



Operating temperature supports Standard grade 0°C ~ 70°C and Industrial grade -40°C ~ +85°C
Part number list - Industrial mini PCI-e flash module supports write protection

Product picture	Capacity	0°C ~ 70°C	-40°C ~ +85°C
	8GB	SBMPM008G-MICTC	WBMPM008G-MIITI
	16GB	SBMPM016G-MICTC	WBMPM016G-MIITI
	32GB	SBMPM032G-MICTC	WBMPM032G-MIITI

Part number decoder

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

Example

S B M P M 0 3 2 G — M I C T 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

B : Bare (without casing)

X3 X4 X5 ➤ Product category

MPM : mini PCI-e flash module

X6 X7 X8 X9 ➤ Capacity

008G : 8GB

016G : 16GB

032G : 32GB

X11 ➤ Controller

M : SMI (HERCULES Series)

X12 ➤ Controller version

A,B,C.....I

X13 ➤ Controller grade

C : Commercial grade

I : Industrial grade

X14 ➤ Flash IC

T : Toshiba SLC-NAND flash IC

X15 ➤ Flash IC grade

C : Commercial grade

I : Industrial grade

C ➤ Reserved for specific requirement

C : Conformal-coating