

HERMES-J Series

Industrial SLC micro SATA III Flash Module



Product Feature

- SLC - NAND type flash technology
- Form-factor supports vertical and horizontal types
- Power request optional: Built-in power pin-7 (w/fuse)
- Power request optional: 5V power cable (w/o fuse)
- S.M.A.R.T. supported
- RoHS & REACH compliant
- Capacity from 4GB up to 32GB

Product Specification

Compatibility	■ SATA 1.0a, SATA 2.6 and SATA3.0 Specification compliance	Power consumption	
Flash technology	■ SLC-NAND type flash memory	Power requirement	▶ +5V $\pm$ 5%
Form-factor	■ Vertical: STD. / Low profile ■ Horizontal: STD. / Low profile	Reading mode	▶ 55mA (Max.)
Host Interface	■ Standard SATA-III 7-pin (data)	Writing mode	▶ 70mA (Max.)
Performance		Idle mode	▶ 20mA (Max.)
Data transfer rate	■ SATA 1.5Gb/s, 3.0Gb/s, 6.0Gb/s	Reliability	
Sequential read	■ 220.0 MB/sec (Max.)	Wear-leveling	▶ Static wear-leveling algorithms
Sequential write	■ 110.0 MB/sec (Max.)	MTBF	▶ > 3,000,000 hours
4KB random read	■ 10.2K IOPS	Erase counts	▶ Up to 60,000 times
4KB random write	■ 16.8K IOPS	ECC	▶ 40 bits per 1024 bytes block
Environmental specification		Physical specification	
Operating temp.	■ STD. 0°C~70°C/IND. -40°C~+85°C	Weight	▶ 20 g (0.71 oz)
Non-operating temp.	■ STD. -20°C~+80°C/IND. -50°C~+95°C	Dimension(W x L x H)	
Humidity	■ 10% ~ 95% non-condensing	Vert. STD. (Bare)	▶ 18.00 x 38.50 x 7.00 (mm)
Vibration	■ 7 Hz to 2K Hz, 20G, 3 axes	Verti. Low pro. (Bare)	▶ 30.10 x 28.75 x 7.00 (mm)
Shock	■ 0.5ms, 1500G, 3 axes	Hori. STD. (Bare)	▶ 18.00 x 30.30 x 12.50 (mm)
Altitude	■ 70,000 feet	Hori. Low pro. (Bare)	▶ 30.00 x 20.08 x 12.30 (mm)
		Low pro. with mounting hole	▶ 30.00 x 28.80 x 12.05 (mm)
		Conformal coating	▶ Optional
		Warranty	
		STD Grade SLC	▶ 3 years or within 60K Erasing counts
		IND Grade SLC	▶ 5 years or within 60K Erasing counts

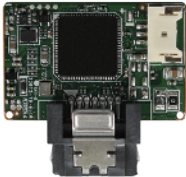
Part Number List

MSF (SATA DOM) in vertical type standard form factor ▶

Product Picture	Capacity	0°C ~ 70°C	- 40°C ~ + 85°C
	4GB	SBMSF004G-JJCTC-VS-(T/F)	WBMSF004G-JJITH-VS-(T/F)C
	8GB	SBMSF008G-JJCTC-VS-(T/F)	WBMSF008G-JJITH-VS-(T/F)C
	16GB	SBMSF016G-JJCTC-VS-(T/F)	WBMSF016G-JJITH-VS-(T/F)C
	32GB	SBMSF032G-JJCTC-VS-(T/F)	WBMSF032G-JJITH-VS-(T/F)C

Note : F: optional item power pin-7 with fuse

MSF (SATA DOM) in vertical type low profile form factor ▶

Product Picture	Capacity	0°C ~ 70°C	- 40°C ~ + 85°C
	4GB	SBMSF004G-JJCTC-VL-(T/F)	WBMSF004G-JJITH-VL-(T/F)C
	8GB	SBMSF008G-JJCTC-VL-(T/F)	WBMSF008G-JJITH-VL-(T/F)C
	16GB	SBMSF016G-JJCTC-VL-(T/F)	WBMSF016G-JJITH-VL-(T/F)C
	32GB	SBMSF032G-JJCTC-VL-(T/F)	WBMSF032G-JJITH-VL-(T/F)C

Note : F: optional item power pin-7 with fuse

MSF (SATA DOM) in horizontal type standard form factor ▶

Product Picture	Capacity	0°C ~ 70°C	- 40°C ~ + 85°C
	4GB	SBMSF004G-JJCTC-HS-(T/F)	WBMSF004G-JJITH-HS-(T/F)C
	8GB	SBMSF008G-JJCTC-HS-(T/F)	WBMSF008G-JJITH-HS-(T/F)C
	16GB	SBMSF016G-JJCTC-HS-(T/F)	WBMSF016G-JJITH-HS-(T/F)C
	32GB	SBMSF032G-JJCTC-HS-(T/F)	WBMSF032G-JJITH-HS-(T/F)C

Note : F: optional item power pin-7 with fuse

MSF (SATA DOM) in horizontal type low profile form factor ▶

Product Picture	Capacity	0°C ~ 70°C	- 40°C ~ + 85°C
	4GB	SBMSF004G-JJCTC-HL-(T/F)	WBMSF004G-JJITH-HL-(T/F)C
	8GB	SBMSF008G-JJCTC-HL-(T/F)	WBMSF008G-JJITH-HL-(T/F)C
	16GB	SBMSF016G-JJCTC-HL-(T/F)	WBMSF016G-JJITH-HL-(T/F)C
	32GB	SBMSF032G-JJCTC-HL-(T/F)	WBMSF032G-JJITH-HL-(T/F)C

Note : F: optional item power pin-7 with fuse

MSF (SATA DOM) in horizontal type low profile form factor with mounting hole ▶

Product Picture	Capacity	0°C ~ 70°C	- 40°C ~ + 85°C
	4GB	SBMSF004G-JJCTC-HO-(T/F)	WBMSF004G-JJITH-HO-(T/F)C
	8GB	SBMSF008G-JJCTC-HO-(T/F)	WBMSF008G-JJITH-HO-(T/F)C
	16GB	SBMSF016G-JJCTC-HO-(T/F)	WBMSF016G-JJITH-HO-(T/F)C
	32GB	SBMSF032G-JJCTC-HO-(T/F)	WBMSF032G-JJITH-HO-(T/F)C

Note : F: optional item power pin-7 with fuse

Part Number Decoder

X1 X2 X3 X4 X5 X6 X7 X8 X9 — X11 X12 X13 X14 X15 — X17 X18 X19 X20

Example ▶

W B M S F 0 3 2 G — J J I T I — V S — 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 casing

B : Bare (without casing)

X3 X4 X5 Product category

MSF : micro SATA flash module

X6 X7 X8 X9 Capacity

004G : 4GB **016G** : 16GB

008G : 8GB **032G** : 32GB

X11 Controller

J : HERMES Series

X12 Controller version

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

X13 Controller grade

C : Commercial grade

I : Industrial grade

X14 Flash IC brand

T : Toshiba SLC-NAND flash IC

X15 Flash IC grade

C : Commercial grade

I : Industrial grade

X17 X18 MSF orient only

VS : Vertical type standard form factor

VL : Vertical type low profile form factor

HS : Horizontal type standard form factor

HL : Horizontal type low profile form factor

HO : Horizontal type low profile form factor with mounting hole

X20 Reserved for specific requirement

Blank : Standard product w/o thermal sensor and conformal-coating

T : Thermal Sensor.

F : Power pin-7 with fuse (optional)

C : Conformal coating (optional)