

HERMES-J Series

Industrial SLC micro SATA III Flash Module



SATA

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 | <ul style="list-style-type: none"> ■ SATA 1.0a, SATA 2.6 and SATA3.0 Specification compliance | Power consumption | |
| Flash technology | <ul style="list-style-type: none"> ■ SLC-NAND type flash memory | Power requirement | <ul style="list-style-type: none"> ▶ +5V ± 5% |
| Form-factor | <ul style="list-style-type: none"> ■ Vertical: STD. / Low profile ■ Horizontal: STD. / Low profile | Reading mode | <ul style="list-style-type: none"> ▶ 55mA (Max.) |
| Host Interface | <ul style="list-style-type: none"> ■ Standard SATA-III 7-pin (data) | Writing mode | <ul style="list-style-type: none"> ▶ 70mA (Max.) |
| Performance | | Idle mode | <ul style="list-style-type: none"> ▶ 20mA (Max.) |
| Data transfer rate | <ul style="list-style-type: none"> ■ SATA 1.5Gb/s, 3.0Gb/s, 6.0Gb/s | Reliability | |
| Sequential read | <ul style="list-style-type: none"> ■ 220.0 MB/sec (Max.) | Wear-leveling | <ul style="list-style-type: none"> ▶ Static wear-leveling algorithms |
| Sequential write | <ul style="list-style-type: none"> ■ 110.0 MB/sec (Max.) | MTBF | <ul style="list-style-type: none"> ▶ > 3,000,000 hours |
| 4KB random read | <ul style="list-style-type: none"> ■ 10.2K IOPS | Erase counts | <ul style="list-style-type: none"> ▶ Up to 60,000 times |
| 4KB random write | <ul style="list-style-type: none"> ■ 16.8K IOPS | ECC | <ul style="list-style-type: none"> ▶ 40 bits per 1024 bytes block |
| Environmental specification | | Physical specification | |
| Operating temp. | <ul style="list-style-type: none"> ■ STD. 0°C~70°C/IND. -40°C~+85°C | Weight | <ul style="list-style-type: none"> ▶ 20 g (0.71 oz) |
| Non-operating temp. | <ul style="list-style-type: none"> ■ STD. -20°C~+80°C/IND. -50°C~+95°C | Dimension(W x L x H) | |
| Humidity | <ul style="list-style-type: none"> ■ 10% ~ 95% non-condensing | Vert. STD. (Bare) | <ul style="list-style-type: none"> ▶ 18.00 x 38.50 x 7.00 (mm) |
| Vibration | <ul style="list-style-type: none"> ■ 7 Hz to 2K Hz, 20G, 3 axes | Verti. Low pro. (Bare) | <ul style="list-style-type: none"> ▶ 30.10 x 28.75 x 7.00 (mm) |
| Shock | <ul style="list-style-type: none"> ■ 0.5ms, 1500G, 3 axes | Hori. STD. (Bare) | <ul style="list-style-type: none"> ▶ 18.00 x 30.30 x 12.50 (mm) |
| Altitude | <ul style="list-style-type: none"> ■ 70,000 feet | Hori. Low pro. (Bare) | <ul style="list-style-type: none"> ▶ 30.00 x 20.08 x 12.30 (mm) |
| | | Low pro. with mounting hole | <ul style="list-style-type: none"> ▶ 30.00 x 28.80 x 12.05 (mm) |
| | | Conformal coating | <ul style="list-style-type: none"> ▶ Optional |
| | | Warranty | |
| | | STD Grade SLC | <ul style="list-style-type: none"> ▶ 3 years or within 60K Erasing counts |
| | | IND Grade SLC | <ul style="list-style-type: none"> ▶ 5 years or within 60K Erasing counts |

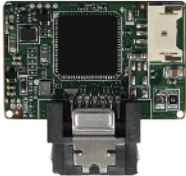
Part Number List

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

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


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(F) | WBMSF004G-JJITI-VL(F) |
| | 8GB | SBMSF008G-JJCTC-VL(F) | WBMSF008G-JJITI-VL(F) |
| | 16GB | SBMSF016G-JJCTC-VL(F) | WBMSF016G-JJITI-VL(F) |
| | 32GB | SBMSF032G-JJCTC-VL(F) | WBMSF032G-JJITI-VL(F) |
| | | | |


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(F) | WBMSF004G-JJITHS(F) |
| | 8GB | SBMSF008G-JJCTC-HS(F) | WBMSF008G-JJITHS(F) |
| | 16GB | SBMSF016G-JJCTC-HS(F) | WBMSF016G-JJITHS(F) |
| | 32GB | SBMSF032G-JJCTC-HS(F) | WBMSF032G-JJITHS(F) |
| | | | |


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(F) | WBMSF004G-JJITHL(F) |
| | 8GB | SBMSF008G-JJCTC-HL(F) | WBMSF008G-JJITHL(F) |
| | 16GB | SBMSF016G-JJCTC-HL(F) | WBMSF016G-JJITHL(F) |
| | 32GB | SBMSF032G-JJCTC-HL(F) | WBMSF032G-JJITHL(F) |
| | | | |

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(F) | WBMSF004G-JJIT-HO(F) |
| | 8GB | SBMSF008G-JJCTC-HO(F) | WBMSF008G-JJIT-HO(F) |
| | 16GB | SBMSF016G-JJCTC-HO(F) | WBMSF016G-JJIT-HO(F) |
| | 32GB | SBMSF032G-JJCTC-HO(F) | WBMSF032G-JJIT-HO(F) |
| | | | |

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 1 ▶

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

Example 2 ▶

W B M S F 0 3 2 G — J J I T I — H 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

X19 X20 Reserved for specific requirement

F : Power pin-7 with fuse (optional)
C : Conformal coating (optional)