

# HERCULES-PB Series

Industrial SLC USB 2.0 Flash Disk Generation 5




## Product Feature

- SLC - NAND type flash technology
- Semi-metal casing design
- Comply with Microsoft Vista Ready-Boost® requirements
- RoHS & REACH compliant
- Capacity from 128MB up to 16GB

## Product Specification

- |                                    |   |                               |  |
|------------------------------------|---|-------------------------------|--|
| <b>Compatibility</b>               | <ul style="list-style-type: none"> <li>▶ USB 2.0 Hi-Speed and USB1.1 Full Speed compatible interface</li> </ul>   | <b>Power consumption</b>      | <ul style="list-style-type: none"> <li>▶ 5V ± 10% via USB port</li> </ul>                |
| <b>Flash technology</b>            | <ul style="list-style-type: none"> <li>▶ SLC-NAND type flash memory</li> </ul>  | <b>Power requirement</b>      | <ul style="list-style-type: none"> <li>▶ 120.0 mA (Max.)</li> </ul>                      |
| <b>Performance</b>                 |   | <b>Reading mode</b>           | <ul style="list-style-type: none"> <li>▶ 139.0 mA (Max.)</li> </ul>                      |
| <b>Data transfer rate</b>          | <ul style="list-style-type: none"> <li>▶ USB 2.0 supports transfer rates up to 480 Mbps (60MB/s)</li> </ul>   | <b>Writing mode</b>           | <ul style="list-style-type: none"> <li>▶ 75.0 mA (Max.)</li> </ul>                       |
| <b>Sequential read</b>             | <ul style="list-style-type: none"> <li>▶ 27.5 MB/sec (Max.)</li> </ul>  | <b>Idle mode</b>              | <ul style="list-style-type: none"> <li>▶ 75.0 mA (Max.)</li> </ul>                       |
| <b>Sequential write</b>            | <ul style="list-style-type: none"> <li>▶ 23.9 MB/sec (Max.)</li> </ul>  | <b>Reliability</b>            |  |
| <b>Environmental specification</b> |   | <b>Wear-leveling</b>          | <ul style="list-style-type: none"> <li>▶ Static wearLeveling algorithms</li> </ul>       |
| <b>Operating temp.</b>             | <ul style="list-style-type: none"> <li>▶ STD. 0°C~70°C/IND.-40°C~+85°C</li> </ul>   | <b>MTBF</b>                   | <ul style="list-style-type: none"> <li>▶ &gt; 3,000,000 hours</li> </ul>                 |
| <b>Non-operating temp.</b>         | <ul style="list-style-type: none"> <li>▶ STD. -20°C~+80°C/IND.-50°C~+95°C</li> </ul>  | <b>Erase counts</b>           | <ul style="list-style-type: none"> <li>▶ Up to 60,000 times</li> </ul>                   |
| <b>Humidity</b>                    | <ul style="list-style-type: none"> <li>▶ 85% / 95% RH Non-Operating</li> </ul>  | <b>ECC</b>                    | <ul style="list-style-type: none"> <li>▶ 72 bits per 1024 bytes block</li> </ul>         |
| <b>Vibration</b>                   | <ul style="list-style-type: none"> <li>▶ 70 Hz to 2K Hz, 15G, 3 axes</li> </ul>   | <b>Physical specification</b> |  |
| <b>Shock</b>                       | <ul style="list-style-type: none"> <li>▶ 0.5ms, 1500G, 3 axes</li> </ul>  | <b>Weight</b>                 | <ul style="list-style-type: none"> <li>▶ 15 g ± 1 g / 0.53 oz.</li> </ul>                |
| <b>Altitude</b>                    | <ul style="list-style-type: none"> <li>▶ 70,000 feet</li> </ul>   | <b>Dimension(W x L x H)</b>   | <ul style="list-style-type: none"> <li>▶ 47.20 x 17.20 x 7.80 (mm)</li> </ul>            |
| <b>OS supported</b>                | <ul style="list-style-type: none"> <li>▶ Windows series Embedded O.S. Linux, VxWorks and DOS</li> </ul>   | <b>Conformal coating</b>      | <ul style="list-style-type: none"> <li>▶ Optional</li> </ul>                             |
| <b>Functionality</b>               | <ul style="list-style-type: none"> <li>▶ Support auto-run function</li> <li>▶ A bootable disk for system recovery</li> <li>▶ Support partition management, password and security</li> </ul> | <b>Warranty</b>               |  |
|                                    |   | <b>STD Grade SLC</b>          | <ul style="list-style-type: none"> <li>▶ 3 years or within 60K Erasing counts</li> </ul> |
|                                    |   | <b>IND Grade SLC</b>          | <ul style="list-style-type: none"> <li>▶ 5 years or within 60K Erasing counts</li> </ul> |

## Part Number List

Product Picture	Capacity	0°C ~ 70°C	- 40°C ~ + 85°C
	<b>128MB</b>	SMUFD128M-MPBTC-5	WMUFD128M-MPBTI-5
	<b>256MB</b>	SMUFD256M-MPBTC-5	WMUFD256M-MPBTI-5
	<b>512MB</b>	SMUFD512M-MPBTC-5	WMUFD512M-MPBTI-5
	<b>1GB</b>	SMUFD001G-MPBTC-5	WMUFD001G-MPBTI-5
	<b>2GB</b>	SMUFD002G-MPBTC-5	WMUFD002G-MPBTI-5
	<b>4GB</b>	SMUFD004G-MPBTC-5	WMUFD004G-MPBTI-5
	<b>8GB</b>	SMUFD008G-MPBTC-5	WMUFD008G-MPBTI-5
	<b>16GB</b>	SMUFD016G-MPBTC-5	WMUFD016G-MPBTI-5

## Part Number Decoder

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

Example ▶

W M U F D 0 1 6 G — M P B T I — 5

**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

M : Semi-metal casing

**X3 X4 X5** Product category

UFD : USB flash disk

**X6 X7 X8 X9** Capacity

**128M** : 128MB    **002G** : 2GB  
**256M** : 256MB    **004G** : 4GB  
**512M** : 512MB    **008G** : 8GB  
**001G** : 001GB    **016G** : 16GB

**X11** Controller

M : HERCULES Series

**X12 X13** Controller version

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

**X14** Flash IC brand

T : Toshiba SLC-NAND flash IC

**X15** Flash IC grade

C : Commercial grade  
 I : Industrial grade

**X17** Housing Generation

5 : Generation 5 housing

**X18 X19 X20** Reserved for specific requirement

C : Conformal coating (optional)