

# DEMETER Series

## SLC micro USB Module (MUM)

2.0/2.54(mm) pin pitch of 10 pins USB internal connector



### Product features

- ❖ SLC - NAND type flash technology
- ❖ 2x5 header, x86 internal USB standard
- ❖ Pin pitch 2.00 mm of USB 10 pins female connector
- ❖ Pin pitch 2.54 mm of USB 10 pins female connector
- ❖ Complies with Microsoft Vista Ready-Boost® requirements
- ❖ USB2.0 High-Speed and USB1.1 FullSpeed compatible interface
- ❖ Fixed disk mode configuration (not a removable disk)
- ❖ Capacities from 512MB up to 8GB (Dual CH.)
- ❖ Performance up to 32.0 MB/sec

### Product specifications

<b>Compatibility</b>	❖ USB 2.0 and USB 1.1 backwards Compatible	<b>Power consumption</b>	
<b>Flash technology</b>	❖ SLC-NAND type flash based	Power requirement	❖ 5V±10% via on board USB port
<b>Form-factor</b>	❖ Vertical Type w/plastic casing ❖ Horizontal Type bare w/mounting	Reading mode	❖ 114.0 mA(Max.)
<b>Host Interface</b>	❖ 10 pins 2.54mm pin pitch connector ❖ 10 pins 2.00mm pin pitch connector	Writing mode	❖ 92.0 mA(Max.)
<b>Performance</b>		Idle mode	❖ 43.0 mA(Max.)
Data transfer rate	❖ USB2.0 High-Speed and USB1.1 FullSpeed compatible interface	<b>Reliability</b>	
Sequential read	❖ 32.0 MB/sec (Dual Channel)	Wear-leveling	❖ Dynamic wear-leveling algorithms
Sequential write	❖ 16.9 MB/sec (Dual Channel)	MTBF	❖ > 3,000,000 hours
Random access time	❖ 0.6ms (estimated)	Endurance	❖ > 2,000,000 cycles
<b>Environmental specification</b>		ECC	❖ 8 bits per 512bytes block
Operating temp.	❖ STD. 0°C~70°C/IND. -40°C~+85°C	Data retention	❖ 10 Years
Non-operating temp.	❖ STD. -20°C~+80°C/IND. -50°C~+95°C	<b>Physical specification</b>	
Humidity	❖ 10% ~ 95% non-condensing	Weight	❖ Vertical type :15 g ± 1g / 0.53 oz. Horizontal type : 10 g ± 1g / 0.35 oz.
Vibration	❖ 15G compliance to MIL-STD-810F	Dimension(W x L x H)	
Shock	❖ 1,500G compliance to MIL-STD-810F	Vert. 2.54mm pitch pin	❖ 15.20 x 6.40 x 34.10 (mm)
Altitude	❖ 70,000 feet	Hori. 2.54mm pitch pin	❖ 37.80 x 26.65 x 8.95 (mm)
<b>OS supported</b>	❖ Win Vista, CE, XP Pro, XP Embedded, Server 2003, Linux and DOS	Hori. 2.00mm pitch pin	❖ 37.80 x 26.65 x 5.90 (mm)
		<b>Conformal coating</b>	❖ Option for special request
		<b>Warranty</b>	
		Standard grade	❖ 3 years
		Industrial grade	❖ 5 years

**CFC**  
Industrial CompactFlash Card

**CFA**  
Industrial CFast Card

**AFC**  
Industrial PCMCIA ATA Card

**MIF**  
Industrial Micro IDE Flash Module

**MSF**  
Industrial micro SATA Flash Module

**MUM**  
Industrial micro USB Flash Module

**MPM**  
Industrial mini PCI-e Flash Module

**MSM**  
Industrial mini SATA Flash Module

**SSD**  
Industrial Solid State Disk


**UFD**  
Industrial Rugged Metal USB Flash Disk

**SDC/H**  
Industrial 32 & 320HC Memory Card

**AD**  
Industrial Adapter Card-Drive

**Operating temperature supports Standard grade 0°C ~ 70°C and Industrial grade -40°C ~ +85°C**

Part number list - Vertical type standard form factor - 2.54mm pin pitch


Product Picture	Capacity	0°C ~ 70°C	-40°C ~ +85°C
	<b>512MB</b>	SPMUM512M-UBCSC-VS	WPMUM512M-UBISI-VS
	<b>1GB</b>	SPMUM001G-UBCSC-VS	WPMUM001G-UBISI-VS
	<b>2GB</b>	SPMUM002G-UBCSC-VS	WPMUM002G-UBISI-VS
	<b>4GB</b>	SPMUM004G-UBCSC-VS	WPMUM004G-UBISI-VS
	<b>8GB</b>	SPMUM008G-UBCSC-VS	WPMUM008G-UBISI-VS

**Remarks:**

This item is w/o coating for optional due to the PCBA limited for casing assembling.


**Operating temperature supports Standard grade 0°C ~ 70°C and Industrial grade -40°C ~ +85°C**

Part number list - Horizontal type standard form factor - 2.54mm pin pitch

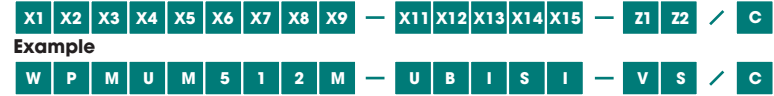
Product Picture	Capacity	0°C ~ 70°C	-40°C ~ +85°C
	<b>512MB</b>	SBMUM512M-UBCSC-HS(/C)	WBMUM512M-UBISI-HS(/C)
	<b>1GB</b>	SBMUM001G-UBCSC-HS(/C)	WBMUM001G-UBISI-HS(/C)
	<b>2GB</b>	SBMUM002G-UBCSC-HS(/C)	WBMUM002G-UBISI-HS(/C)
	<b>4GB</b>	SBMUM004G-UBCSC-HS(/C)	WBMUM004G-UBISI-HS(/C)
	<b>8GB</b>	SBMUM008G-UBCSC-HS(/C)	WBMUM008G-UBISI-HS(/C)

**Operating temperature supports Standard grade 0°C ~ 70°C and Industrial grade -40°C ~ +85°C**

Part number list - Horizontal type low profile form factor - 2.00mm pin pitch

Product Picture	Capacity	0°C ~ 70°C	-40°C ~ +85°C
	<b>512MB</b>	SBMUM512M-UBCSC-HL(/C)	WBMUM512M-UBISI-HL(/C)
	<b>1GB</b>	SBMUM001G-UBCSC-HL(/C)	WBMUM001G-UBISI-HL(/C)
	<b>2GB</b>	SBMUM002G-UBCSC-HL(/C)	WBMUM002G-UBISI-HL(/C)
	<b>4GB</b>	SBMUM004G-UBCSC-HL(/C)	WBMUM004G-UBISI-HL(/C)
	<b>8GB</b>	SBMUM008G-UBCSC-HL(/C)	WBMUM008G-UBISI-HL(/C)

**Part number decoder**



**X1** ↗ **Grade**

**S** : Standard grade operating temp. 0°C~70 °C

**W** : Industrial grade operating temp. -40°C~+85 °C

**X12** ↗ **Controller version**

**A,B,C,.....**

**X2** ↗ **The material of casing**

**B** : Bare (without casing)

**P** : Plastic casing

**X13** ↗ **Controller grade**

**C** : Commercial grade

**I** : Industrial grade

**X3** **X4** **X5** ↗ **Product category**

**MUM** : micro USB module

**X14** ↗ **Flash IC**

**S** : Samsung SLC-NAND flash IC

**X6** **X7** **X8** **X9** ↗ **Capacity**

**512M** : 512MB    **004G** : 4GB

**001G** : 1GB    **008G** : 8GB

**002G** : 2GB

**X15** ↗ **Flash IC grade**

**C** : Commercial grade

**I** : Industrial grade

**Z1** **Z2** ↗ **MUM orient only**

**VS** : Vertical type standard form factor

**HS** : Horizontal type standard form factor

**HL** : Horizontal type low profile form factor

**X11** ↗ **Controller**

**U** : USBest (DEMETER Series)

**C** ↗ **Reserved for specific requirement**

**C** : Conformal-coating

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