THE DATASHEET OF

SFUI1024J1AB1TO-C-MS-211-STD

swissbit®

Product Fact Sheet

Industrial USB Flash Drive Module

U-400 Series

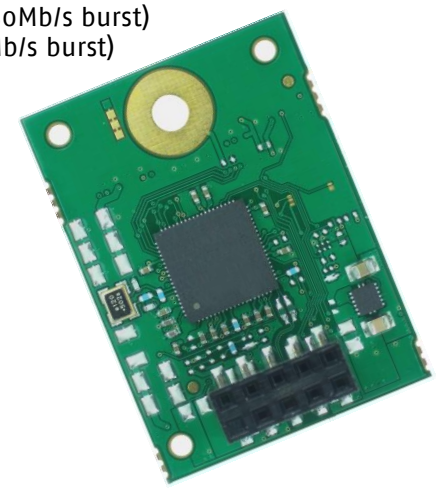
USB2.0, high speed

made in germany

U-400 Series (USB2.0, high speed)

Industrial USB Flash Drive Module (eUSB) – 1 to 16GByte

Main Features



- USB2.0 solid state flash drive for internal 9(10)-pin USB connector terminal
  - Fully compliant with USB specification 2.0/3.0 (High-Speed, 480Mb/s burst)
  - Fully backward compliant with USB 1.1 systems (Full speed, 12Mb/s burst)
  - Dimension of 26.65 x 36.8mm
  - 2.54mm or 2.00mm connector with keyed pin9 (optional different key pins and pinouts)
  - Screw hole not connected (optional grounded)
  - Fix drive (optional removable)
  - LED for operation indication
  - Write protect switch (optional)
  - FAT32 preformatted
  - Diagnostic features with Life Time Monitoring tool support
  - Firmware update in field possible
- High performance 2.0 specification
  - Up to 40 IOPS write and 1700 IOPS read (4KByte transfers)
  - Up to 34MBytes/s sequential write and 36MBytes/s read speed
- Power Supply: (Low-power CMOS technology)
  - 3.1 to 5.5V operating voltage
- Optimized FW algorithms especially for high read access and long data retention applications
  - Patented power-off reliability technology
  - Near Miss ECC technology
    Minimize the risk of uncorrectable bit failure over the product life time. Each read command analyzes the ECC margin level and refresh data if necessary
  - Read Disturb Management
    The read commands are monitored and the content is refreshed when critical levels have occurred
  - Wear Leveling technology
    Equal wear leveling of static and dynamic data. The wear leveling assures that dynamic data as well as static data is balanced evenly across the memory. With that the maximum write endurance of the device is guaranteed
  - Data Care Management
    The interruptible background process maintain the user data for Read Disturb effects or Retention degradation due to high temperature effects
  - UBER $<10^{-17}$
- High reliability
  - SLC NAND Flash with highest program erase cycles per block
  - Designed with sophisticated firmware architecture for industrial and netcom market especially 24/7 application like networking, base stations, infrastrucuture systems, POS/POI, medical and general boot medium use case.
  - The product is optimized for highest reliability and power fail safety.
  - Commercial and Industrial Temperature range, 0° up to 70°C and -40° up to 85°C
- Controlled BOM & PCN process
- RoHS, China-RoHS, REACH compatible, WEEE, CE, FCC compliant
- Customized options like registers, removable device, connector options, write protect switch, grounded mounting hole, conformal coating, densities, uploads, label, security controller, ...

Order Information for U-400 Series

Density	Part Number	Connector	Temp. Range	Flash Technology
1GB	SFUI1024cgAB1TO-t-MS-2xx-STD	c = J 2.54mm pitch c = K 2.00mm pitch	t = C -0°C to 70°C t = I -40°C to 85°C	SLC NAND Flash
2GB	SFUI2048cgAB2TO-t-MS-2xx-STD			
4GB	SFUI4096cgAB1TO-t-MS-2xx-STD			
8GB	SFUI8192cgAB2TO-t-MS-2xx-STD			
16GB	SFUI016GcgAB1TO-t-QT-2xx-STD			

g = generation; x = options, firmware and custom configuration

System Performance

System Performance	typ	max	unit
Burst Data transfer Rate (480Mb/s)	60		MB/s
Sustained Sequential Read	28	30	
Sustained Sequential Write 1GB/2-32GB	19/27	22/30	

Current Consumption @5V (±10%)	typ	max	unit
Write	100	120	mA
Read	70	100	
Autoread	100	120	
Idle	45	60	
Suspend	0.8	2.5	

Physical Dimensions

Physical Dimensions	value	unit
Length	36.8±0.2	mm
Width	26.65±0.2	
Thickness (PCB)	1.0±0.1	
2.54mm or 2.00mm pitch connector length	7.5 or 3.6	
Weight (typ.)	2	g

Recommended Temperature Conditions

Parameter	min	typ	max	unit
Commercial Operating Temperature	0	25	70*)	°C
Industrial Operating Temperature	-40	25	85*)	°C
Storage Temperature	-40	25	100*)	°C

*) high temperature storage without operation reduces the data retention, in operation the data will be refreshed, if data error issues were detected

Durability / Environmental conditions

Parameter	methode
Free fall / Drop test	1.5m free fall
Shock / Vibration (peak -to-peak)	1,500G (JESD22-B110/B104) / 50G (MIL-STD-883H)
Humidity	85°C, 85% RH (JESD22-A101)

For more information on USB drive specification, please visit USB implementer's forum (http://www.usb.org)

Why Swissbit?
Swissbit strives to create innovative technologies for future market opportunities utilizing a highly skilled in-house product research and development team. Swissbit maintains a marketing edge by continuing to manufacture world-class high quality memory products and providing customers with both high value and low cost of ownership achieved through efficient processes and procedures.

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