

swissbit®

Product Fact Sheet

Industrial USB Flash Drive Module

U-45 Series

USB2.0, High-Speed, MLC

durabit™

"the better MLC"



U-45 Series (USB2.0, High-Speed, MLC) Industrial USB Flash Drive Module (eUSB) – 4 to 32GBytes

Product Summary

- 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 pin 9 (different key pins and pinouts optional)
 - Screw hole not connected (optional grounded)
 - Fixed 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
 - **durabit™** firmware optimized for random access (up to 550 IOPS write and 1600 IOPS read (4KByte transfers))
 - Up to 19MBytes/s sequential write and 26MBytes/s read speeds
- Power Supply: (Low-Power CMOS Technology)
 - 3.1 to 5.5V operating voltage
- Optimized firmware algorithms, especially for high read access and long data retention applications:
 - Patented Power-Off Reliability Technology
 - Near Miss ECC Technology:
Minimizes the risk of uncorrectable bit failure over the product life time. Each read command analyzes the ECC margin level and refreshes data, if necessary.
 - Read Disturb Management:
The read commands are monitored, and the content is refreshed when critical levels have occurred.
 - Wear Leveling Technology:
Ensures 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 this, the maximum write endurance of the device is guaranteed.
 - Data Care Management:
The interruptible background process maintains the user data for read disturb effects or retention degradation due to high temperatures.
- High Reliability:
 - MLC NAND flash with 3,000 program/erase cycles per block and **durabit™** firmware with reduced write amplification. For write emphasized applications, Swissbit recommends the U-400 series with SLC flash.
 - Designed with sophisticated firmware architecture for industrial and netcom markets, especially 24/7 application like networking, base stations, infrastructure systems, POS/POI, medical and general boot medium use cases.
 - The product is optimized for highest reliability and power fail safety.
 - Commercial and industrial temperature ranges: 0° up to 70°C and -40° up to 85°C
- Controlled BOM and 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, and security controller

Why Swissbit?

Swissbit is focused on the design, development, manufacture, and support of leading edge memory and storage solutions for the worldwide OEM/ODM marketplace. As a global supplier, Swissbit recognizes and addresses the higher level of application requirements of today's industrial, Netcom, and automotive customers by providing best-in-class products and services, with uncompromised attention to driving overall value and quality.