swissbit®

Product Fact Sheet

Industrial microSD / SDHC / SDXC Memory Card

S-46u Series

UHS-I Interface, pSLC

Extended and Industrial Temperature Grade

Date: March 29, 2019
Revision: 1.01

everbit™



made in germany

Product Fact Sheet
S-46u Series

Product Summary

- **Capacities:** 2 GBytes, 4 GBytes, 8 GBytes, 16 GBytes, 32 GBytes, 64 GBytes
- **Form Factor:** Standard microSD memory Card form factor: 15.0mm x 11.0mm x 0.7mm (1.0mm)
- **Compliance:** Fully compliant with SD Memory Card specification 2.0 and 3.0 and MICRO SD Memory Card Addendum 4.00
  - SD/SDHC/SDXC default/high speed mode and UHS supported
  - Up to speed class 10 and U3 according SD3.0 specification
  - FAT16, FAT32 or exFAT preformatted
- **Performance:** High performance 3.0 specification
  - SD Default speed, SD High speed, SD UHS-I
  - Read Performance: Sequential Read up to 46 MBytes/s, Random Read IOPS up to 1,433
  - Write Performance: Sequential Write up to 41 MBytes/s, Random Write IOPS up to 1,249
- **Operating Temperature Range*:**
  - Extended: -25 to 85 °C
  - Industrial: -40 to 85 °C
- **Storage Temperature Range:**
  - Extended: -25 to 100 °C
  - Industrial: -40 to 100 °C
- **Operating Voltage:** 2.7 ... 3.6V normal operating voltage (Low-power CMOS technology)
- **Data Retention:** 10 years @ Life Begin / 1 Year @ Life End
- **Humidity:** 85% RH @85°C 1000h
- **Electromagnetic Compatibility Test:** Radiated Emission; Radiated Immunity; Electrostatic Discharge

Product Features

- Optimized FW algorithms especially for high read access and long data retention applications
  - Patented power-off reliability technology, Wear Leveling technology
  - Write Endurance technology, Read Disturb Management
  - Data Care Management, Near miss ECC technology
  - Diagnostic features with Life Time Monitoring tool support
- High reliability
  - S-46u cards with pseudo SLC (pSLC) feature higher write performance and endurance than MLC based cards (S-45u)
  - The product is optimized for long life cycle and provides excellent data retention in high temperature mission profiles.
  - Number of card insertions/removals up to 20,000
  - SIP (System In Package) process for extreme dust, water and ESD proof
  - Selected AEC-Q100 qualification
- Manufactured in a TS 16949 certified factory
- Controlled BOM & PCN process
- Customized options like CID registers, CPRM keys, firmware incl. settings and marking by projects
- In-Field Firmware Update
- Swissbit Life Time Monitoring (SBLTM) Tool and SDK for SBLTM (on request)

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 addressees 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.

* High Temperature storage without operation reduces the data retention, in operation the data will be refreshed, if data error issues were detected