swissbit®

Product Fact Sheet

# Industrial microSD / SDHC / SDXC Memory Card

## S-46u Series

UHS-I Interface, pSLC

Extended and Industrial Temperature Grade

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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