

everbit™

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Product Fact Sheet

**Industrial  
SD / SDHC / SDXC  
Memory Card**

**S-46 Series**  
UHS-I Interface, pSLC

Extended and Industrial  
Temperature Grade

Date: April 04, 2019  
Revision: 1.02



## Product Summary

- **Capacities:** 2 GBytes, 4 GBytes, 8 GBytes, 16 GBytes, 32 GBytes, 64 GBytes
- **Form Factor:** Standard SD Memory Card 32.0mm x 24.0mm x 2.1mm and Write Protect slider
- **Compliance:** Fully compliant with SD Memory Card specification 3.0
  - Fully compatible with UHS-I/SDR104 hosts
  - Up to speed class 10 and U3 according SD3.0 specification
  - SD2.0 SDHC backward compliant, default speed and high speed mode
  - FAT16 / FAT 32 / 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 1,439
  - Write Performance: Sequential Write up to 52 MBytes/s, Random Write IOPS up to 1,259
- **Operating Temperature Range<sup>1</sup>:**
  - Extended: -25 °C to 85 °C
  - Industrial: -40 °C to 85 °C
- **Storage Temperature Range:**
  - Extended: -25 °C to 100 °C
  - Industrial: -40 °C to 100 °C
- **Operating Voltage:** 2.7 ... 3.6V (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-46 cards with pseudo SLC (pSLC) feature higher random write performance and endurance than MLC based cards (S-45)
  - The product is optimized for long life cycle and provides excellent data retention in high temperature mission profiles.
  - Number of card insertions/removals 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
- Customized options like CID registers, CPRM keys, firmware incl. settings and marking by projects
- In-field firmware update
- AES256 Encryption (on request)
- 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 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.

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<sup>1</sup> High temperature storage without operation reduces the data retention, in operation the data will be refreshed, if data error issues were detected.

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