swissbit®

Product Fact Sheet

Industrial
SD / SDHC Memory Card

S-600 series
UHS-I Interface, SLC

Extended and Industrial
Temperature Grade

Date: August 18, 2022
Revision: 1.01

Made in Germany

swissbit®

Product Summary

- **Capacities:** 512 MBytes, 1 GBytes, 2 GBytes, 4 GBytes, 8 GBytes, 16 GBytes, 32 GBytes
- **Form Factor:** Standard SD Memory Card 32.0mm x 24.0mm x 2.1mm and Write Protect slider
- **Compliance[1]:** Fully compliant with SD Memory Card specification 5.0 (4-32GB) / 3.0 (512MB-2GB)
  - o Up to speed class 10/U3/V30 according SD5.0 specification
  - o Fully compatible with UHS-I/SDR104 hosts
  - o SD2.0 SDHC backward compliant, default speed and high speed mode
  - o FAT16 / FAT32
- **Environmental:** RoHS / REACH Compliant
- **Compatibility:** Support SD SPI mode
- **Performance (max. capacity):**
  - o SD Default speed
  - o SD High speed
  - o SD UHS-I
  - o Read performance: sequential read up to 95 MBytes/s
  - o Write performance: sequential write up to 55 MBytes/s
- **Operating Temperature Range:**
  - o Extended: -25 °C to 85 °C
  - o Industrial: -40 °C to 85 °C
- **Storage Temperature Range:** -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
- **Reliability:**
  - o Mean Time Between Failure (MTBF): > 3,000,000 hours
  - o Number of insertions: up to 20,000
- **Shock/Vibration:** 1,500 g /50 g
- **Electromagnetic Compatibility Test:** Radiated Emission; Radiated Immunity; Electrostatic Discharge

Product Features

- Optimized FW algorithms especially for read/write access, highest random write performance and best endurance with long data retention
  - o Designed for usage in applications with highest requirements regarding reliability like data logging, POS/POI, Medical and other demanding use-cases
  - o Especially suitable for intensive read/write operations
  - o Advanced power-off reliability technology
  - o 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
  - o The S-600 series is optimized for high read/write traffic for demanding industrial applications.
  - o Read Disturb Management
    The read commands are monitored and the content is refreshed when critical levels have occurred
  - o Data Care Management
    The interruptible background process maintain the user data for Read Disturb effects or Retention degradation due to high temperature effects

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[1] The verification of host system and storage device compatibility is in customer's responsibility. Swissbit can provide guidance and support on request.

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