

swissbit®

Product Fact Sheet

Industrial SDHC / SDXC Memory Card

S-52 Performance Series UHS-I, 3D TLC

Industrial Temperature Grade

Date: June 02, 2020
Revision: 1.00



Product Summary

- **Capacities:** 32 GBytes, 64 GBytes, 128 GBytes
- **Form Factor:** Standard SD Memory card form factor – 32.0mm x 24.0mm x 2.1mm, Write Protect slider
- **Compliance¹:** Fully compliant with SD Memory Card specification 6.10
 - SDHC high speed mode, UHS-I
 - Speed class 10 and U3 according SD6.10 specification
 - SD2.0 backward compliant
 - FAT32 / exFAT preformatted
- **Environmental:** RoHS / REACH Compliant
- **Compatibility:** Support SD SPI mode
- **Performance (max. capacity):**
 - Read performance: sequential read up to 94 MBytes/s
 - Write performance: sequential write up to 84 MBytes/s
 - SDR12, SDR25, SDR50, SDR104, DDR50 mode
- **Operating Temperature Range²:**
 - Extended: -25 °C to 85 °C
 - Industrial: -40 °C to 85 °C
- **Storage Temperature Range:** -40 °C to 85 °C
- **Operating Voltage:** 2.7...3.6V
- **Data Retention³:** 10 years @ life begin; 1 year @ life end
- **Error Correction:** Advanced ECC (Error Correction Code)
 - Mean Time Between Failure (MTBF): > 2,000,000 hours
- Number of insertions: up to 20,000

Product Features

- High performance 6.10 specification
 - SD burst up to 104MB/s
 - SD Normal speed 0...25MHz clock rate
 - SD High speed 25...50MHz clock rate
 - SD UHS-I speed 0...50MHz (DDR) and 0...208MHz (SDR)
- Power Supply: (Low-power CMOS technology)
 - 2.7...3.6V normal operating voltage
- Optimized FW algorithms optimized for high read access and long data retention.
 - Designed for usage as a read-mostly device or for sequential write/read operations in applications like navigation, infotainment, boot device, digital signage, surveillance cams, drone video recording.
 - Advanced power-off reliability technology
 - 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 ensured.
 - The automotive series is optimized for high read traffic with sparse write operations. It is discouraged to use the S-52 automotive with high write traffic.

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

² @Ambient temperature

³ NAND Flash data retention and endurance characteristics are defined according to JEDEC JESD47 and JESD22. The endurance limits of the storage shall be monitored by the life time information and simulated before field usage by the customer.