swissbit®

Industrial
CFast Card

F-800 Series
SATA Gen3 – 6.0 Gbit/s, SLC

Commercial and Industrial
Temperature Grade

64GB
Industrial
CFast™ Card

Made in Germany
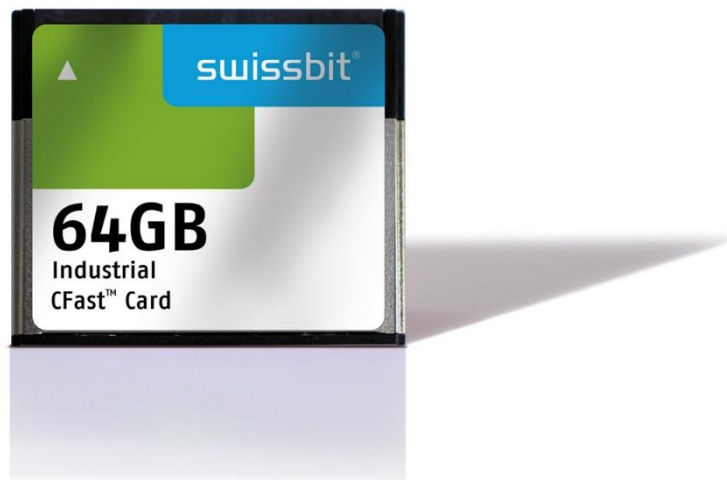
Product Summary

- **Capacities:** 2 GBytes, 4 GBytes, 8 GBytes, 16 GBytes, 32 GBytes, 64 GBytes
- **Form Factor:** CFast-Sized Solid State Drive (36.4 mm x 42.8 mm x 3.6 mm)
- **Interface[1]:** SATA Gen3 – 6 Gbit/s (Gen2 – 3 Gbit/s and Gen1 – 1.5 Gbit/s backward compatible)
- **Command Sets:** Supports ATA/ATAPI-8 and ACS-4
- **CFast 2.0 Compatible**
- **Performance:** Burst Transfer Rate: Up to 600 MBytes/s in SATA Gen3 – 6.0 Gbit/s
  - Read Performance: Sequential Read up to 318 MBytes/s, Random Read 4K up to 10,500 IOPS
  - Write Performance: Sequential Write up to 187 MBytes/s, Random Write 4K up to 7,300 IOPS
- **Operating Temperature Range:** Commercial: 0 °C to 70 °C / Industrial: -40°C to 85 °C
- **Storage Temperature Range:** -40 °C to 85 °C
- **Operating Voltage:** 3.3 V ± 5%
- **Power typical @ 64 GByte (preliminary):** $\leq$ 1300 mW / $\leq$ 400mA
- **Data Retention:** 10 Years @ Life Begin / 1 Year @ Life End
- **Endurance in DriveWritesPerDay (DWPD):** JEDEC Workload: Enterprise up to 5 / Client: up to 29
- **Shock/Vibration:** 500 g / 20 g
- **High-Performance 32-Bit Processor with Integrated, Parallel Flash Interface Engines:**
  - Single-Level Cell (SLC) NAND Flash
  - Flexible BCH and GCC ECC engines provide superior error correction performance
- **High Reliability:** Mean Time Between Failure (MTBF): > 2,000,000 hours @ 25°C
- **Data Reliability:** < 1 non-recoverable error per 10^{16} bits read

Product Features

- Dynamic and Static Wear Leveling
- Subpage Mode Flash Translation Layer (FTL)
- Active Data Care Management: Adaptive Read Refresh
- Lifetime Enhancements: Dynamic Bad Block Remapping / Write Amplification Reduction
- On-Board Power Fail Protection
- TRIM and NCQ Support
- ATA Security Feature Set Support
- DEVSLP Compatible
- Enterprise-Grade Self-Monitoring, Analysis, and Reporting Technology (S.M.A.R.T.)
- End-to-End (E2E) Data Protection
- Advanced protection against radiation and soft-errors with SRAM ECC and low-alpha package
- AES-128/256 Encryption support with CBC and XTS modes (on request)
- TCG Opal 2.0 and secure boot features (on request)
- On-die temperature sensor
- Life Cycle Management, Controlled "Locked" BOM
- RoHS 6 compliance
- In-Field Firmware Update[2], Swissbit Life Time Monitoring (SBLTM) Tool and SDK

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.

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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.

[2] The support of In-Field FW update capabilities on host systems is recommended.

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