swissbit®

Product Fact Sheet

Industrial CFast™ Card

F-50 Series

SATA III - 6.0 Gbit/s, MLC

Commercial and Industrial Temperature Grade

Date: February 28, 2019
Revision: 1.05

made in germany

Product Fact Sheet
F-50 Series

Product Summary

- **Capacities:** 8 GBytes, 16 GBytes, 32 GBytes, 64 GBytes, 128 GBytes, 256 GBytes
- **Form Factor:** CFast™ 2.0 (36.4 mm x 42.8 mm x 3.6 mm)
- **Compliance:** SATA Revision 3.1 – 6 Gbit/s (3 Gbit/s and 1.5 Gbit/s backward compatible)
- **Command Sets:** Supports ATA/ATAPI-8 and ACS-2
- **Performance:**
  - Read Performance: Sequential Read up to 500 MBytes/s, Random Read IOPS up to 53,500
  - Write Performance: Sequential Write up to 330 MBytes/s, Random Write IOPS up to 74,000
- **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 (Max Capacity):** Read (Active): 1.2 W; Write (Active): 2.0 W; Idle: 248 mW; Slumber: 17 mW
- **Data Retention:** 10 Years @ Life Begin / 1 Year @ Life End
- **Endurance in TeraBytes Written (TBW) Max Capacity†:** Client > 150; Enterprise > 7
- **Shock/Vibration:** 500 *g* / 20 *g*
- **Hardware BCH Code ECC:** up to 66 bit correction per 1 KByte page
- **NAND Flash Technology:** Multi-Level Cell (MLC)
- **Mean Time Between Failure:** > 2,000,000 hours
- **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: Read Refresh
- Lifetime Enhancements
  - Dynamic Bad Block Remapping
  - Write Amplification Reduction
- On-Board Power Fail Protection
- AHCI, TRIM, and NCQ Support
- ATA Security Feature Set Support
- DEVSLP Compatible
- In-Field Firmware Update
- Self-Monitoring, Analysis, and Reporting Technology (S.M.A.R.T.)
- Controlled "Locked" BOM
- 30 µinch Gold-Plated Connector (on request)
- Conformal coating (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 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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* Adequate airflow is required to ensure the drive temperature, as reported in the S.M.A.R.T. data, does not exceed the specified maximum operating temperature.

† According to JEDEC (JESD47I), the time to write the full TBW is a minimum of 18 months. Higher average daily data volume reduces the specified TBW. The values listed are estimates and are subject to change without notice.