swissbit®

Product Fact Sheet

Industrial CFast™ Card

F-50 Series

SATA Gen3 – 6.0 Gbit/s, MLC

Commercial and Industrial Temperature Grade

Date: November 23, 2021
Revision: 1.07

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 Gen3 – 6 Gbit/s (Gen2 – 3 Gbit/s and Gen1 – 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 4K up to 53,500 IOPS
  - Write Performance: Sequential Write up to 330 MBytes/s, Random Write 4K up to 74,000 IOPS
- **Operating Temperature Range[1]:**
  - 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[2]:** Client ≥ 165; Enterprise ≥ 8
- **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 (MTBF):** > 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
- Enterprise-Grade 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 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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[1] Adequate airflow is required to ensure the temperature, as reported in the S.M.A.R.T. data, does not exceed 120°C (industrial temperature drive) and 105°C (commercial temperature drive) respectively.

[2] 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.

Mouser Electronics

Authorized Distributor

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Swissbit:

SFCA016GH1AD2TO-I-GS-216-STD SFCA032GH1AD4TO-I-GS-216-STD SFCA128GH1AD4TO-I-LT-216-STD SFCA064GH1AD4TO-I-GS-216-STD SFCA008GH1AD1TO-I-GS-216-STD SFCA256GH1AD4TO-I-HT-216-STD SFCA064GH1AD4TO-C-GS-216-STD SFCA256GH1AD4TO-C-HT-216-STD SFCA032GH1AD4TO-C-GS-216-STD SFCA016GH1AD2TO-C-GS-216-STD SFCA008GH1AD1TO-C-GS-216-STD SFCA128GH1AD4TO-C-LT-216-STD SFCA064GH1AD4TO-I-GS-226-STD SFCA064GH1AD4TO-C-GS-226-STD SFCA032GH1AD4TO-I-GS-226-STD SFCA128GH1AD4TO-I-LT-226-STD SFCA016GH1AD2TO-C-GS-226-STD SFCA032GH1AD4TO-C-GS-226-STD SFCA128GH1AD4TO-C-LT-226-STD SFCA256GH1AD4TO-C-HT-226-STD SFCA256GH1AD4TO-I-HT-226-STD SFCA008GH1AD1TO-C-GS-226-STD SFCA008GH1AD1TO-I-GS-226-STD SFCA016GH1AD2TO-I-GS-226-STD SFCA016GH1AD2TO-C-GS-236-STD SFCA016GH1AD2TO-I-GS-236-STD SFCA032GH1AD4TO-C-GS-236-STD SFCA008GH1AD1TO-I-GS-236-STD SFCA008GH1AD1TO-C-GS-236-STD SFCA032GH1AD4TO-I-GS-236-STD SFCA064GH1AD4TO-C-GS-236-STD SFCA064GH1AD4TO-I-GS-236-STD SFCA128GH1AD4TO-I-LT-236-STD SFCA256GH1AD4TO-C-HT-236-STD SFCA256GH1AD4TO-I-HT-236-STD SFCA128GH1AD4TO-I-LT-226-STD