## swissbit®

**Product Fact Sheet** 

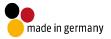
Industrial CFast™ Card

F-56 Series SATA Gen3 - 6.0 Gbit/s, pSLC

Commercial and Industrial Temperature Grade

Date: December 17, 2019 Revision: 1.02





# Product Fact Sheet F-56 Series



### **Product Summary**

- Capacities: 4 GBytes, 8 GBytes, 16 GBytes, 32 GBytes, 64 GBytes, 128 GBytes
- Form Factor: CFastTM 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 510 MBytes/s, Random Read 4K up to 32,000 IOPS
  - o Write Performance: Sequential Write up to 415 MBytes/s, Random Write 4K up to 66,000 IOPS
- Operating Temperature Range¹:
  - o Commercial: o °C to 70 °C
  - o 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): 2.1 W; Idle: 248 mW; Slumber: 17 mW
- Data Retention: 10 Years @ Life Begin / 1 Year @ Life End
- Endurance in TeraBytes Written (TBW) Max Capacity<sup>2</sup>: Client  $\geq$  580; Enterprise  $\geq$  25
- Shock/Vibration: 500 g / 20 g
- Hardware BCH Code ECC: up to 66 bit correction per 1 KByte page
- NAND Flash Technology: Pseudo Single-Level Cell (pSLC)
- Mean Time Between Failure (MTBF): > 2,000,000 hours
- Data Reliability: < 1 non-recoverable error per 10<sup>16</sup> 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 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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<sup>&</sup>lt;sup>1</sup> 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.

<sup>&</sup>lt;sup>2</sup> 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.

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