

# swissbit®

Product Fact Sheet

**Industrial  
SLIM SATA SSD  
(M0-297)**

**X-60s Series**  
SATA III – 6.0 Gbit/s

**durabit™**

“the better MLC”



# X-60s Series – Industrial Slim SATA Solid State Drive

## Product Summary

- **Capacities:** 30 GBytes, 60 GBytes, 120 GBytes, 240 GBytes, 480 GBytes
- **Form Factor:** JEDEC M0-297 Slim SATA (54 mm x 39 mm x 4 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 520 MBytes/s, Random Read IOPs up to 75,000
  - Write Performance: Sequential Write up to 450 MBytes/s, Random Write IOPs up to 75,000
- **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:** 5 V ± 10% and 3.3 V ± 5%
- **Power (Max Capacity):**
  - 3.3V: Read (Active): 1.5 W; Write (Active): 3.2 W; Idle: 380 mW; Slumber: 115 mW
  - 5V: Read (Active): 1.7 W (5 V); Write (Active): 3.7 W; Idle: 550 mW; Slumber: 275 mW
- **Data Retention:** 10 Years @ Life Begin; 1 Year @ Life End
- **Endurance in TeraBytes Written (TBW) Max Capacity:** Client > 910; Embedded > 280; Enterprise > 140
- **Shock/Vibration:** 2,000 g/20 g (MIL-STD810)
- **Hardware BCH Code ECC:** up to 66 bit correction per 1 KByte page
- **Mean Time Between Failure:** > 2,000,000 hours
- **Data Reliability:** < 1 non-recoverable error per 10<sup>16</sup> bits read

## Product Features

- Best-in-Class Performance and Endurance with **durabit™** Technology
- Dynamic and Static Wear Leveling
- Active and Passive Data Care Management
- Lifetime Enhancements
  - Dynamic Bad Block Remapping
  - Write Amplification Reduction
- On-Board Power Fail Protection
- AHCI, TRIM, and NCQ Support
- ATA Security Feature Set Support
- In-Field Firmware Update
- Enterprise-Grade Self-Monitoring, Analysis, and Reporting Technology (S.M.A.R.T.)
- AES256 Encryption (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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\* 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.

## Part number options

| Product Type  | Product Series | Density | Swissbit Part Number         | Mat. # | Temp Range |
|---------------|----------------|---------|------------------------------|--------|------------|
| SLIM SATA SSD | X-60s          | 30 GB   | SFSA030GV1AA1TO-C-LB-216-STD | 605398 | C-temp     |
| SLIM SATA SSD | X-60s          | 30 GB   | SFSA030GV1AA1TO-I-LB-216-STD | 605279 | I-temp     |
| SLIM SATA SSD | X-60s          | 60 GB   | SFSA060GV1AA2TO-C-LB-216-STD | 605399 | C-temp     |
| SLIM SATA SSD | X-60s          | 60 GB   | SFSA060GV1AA2TO-I-LB-216-STD | 605280 | I-temp     |
| SLIM SATA SSD | X-60s          | 120 GB  | SFSA120GV1AA4TO-C-LB-216-STD | 605400 | C-temp     |
| SLIM SATA SSD | X-60s          | 120 GB  | SFSA120GV1AA4TO-I-LB-216-STD | 605281 | I-temp     |
| SLIM SATA SSD | X-60s          | 240 GB  | SFSA240GV1AA4TO-C-HC-216-STD | 605401 | C-temp     |
| SLIM SATA SSD | X-60s          | 240 GB  | SFSA240GV1AA4TO-I-HC-216-STD | 605282 | I-temp     |
| SLIM SATA SSD | X-60s          | 480 GB  | SFSA480GV1AA4TO-C-OC-216-STD | 605402 | C-temp     |
| SLIM SATA SSD | X-60s          | 480 GB  | SFSA480GV1AA4TO-I-OC-216-STD | 605283 | I-temp     |