

swissbit®

PRELIMINARY
Product Fact Sheet

Industrial 2.5" SATA SSD

X-70 Series
SATA III - 6.0 Gbit/s, 3D TLC

Commercial Temperature Grade

Date: March 1, 2019
Revision: 0.91



Product Summary

- **Capacities:** 60 GBytes, 120 GBytes, 240 GBytes, 480 GBytes
- **Form Factor:** 2.5" SATA Solid State Drive (70 mm x 100 mm x 7 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 550 MBytes/s, Random Read IOPS up to 85,500
 - Write Performance: Sequential Write up to 405 MBytes/s, Random Write IOPS up to 73,000
- **Operating Temperature Range*:**
 - Commercial: 0 °C to 70 °C
- **Storage Temperature Range:** -40 °C to 85 °C
- **Operating Voltage:** 5 V ± 10%
- **Power (Max Capacity):** Read (Active): 2.7 W; Write (Active): 3.0 W; Idle: 600 mW; Slumber: 190 mW
- **Data Retention:** 10 Years @ Life Begin; 1 Year @ Life End
- **Endurance in TeraBytes Written (TBW) @ Max Capacity†:** Client > 95; Enterprise > 135
- **Shock/Vibration:** 1,500 g / 20 g
- **LDPC ECC** with up to 165 bit correction per 1 KByte page
- **NAND Flash Technology:** 3D Triple-Level Cell (TLC)
- **Mean Time Between Failure:** > 2,000,000 hours
- **Data Reliability:** < 1 non-recoverable error per 10¹⁶ 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
- In-Field Firmware Update
- Self-Monitoring, Analysis, and Reporting Technology (S.M.A.R.T.)
- 30 µinch Gold-Plated Connector (IPC-6012B Class 2 Compliant)
- Controlled "Locked" BOM
- RoHS-6 Compliant
- 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.

* 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 (JESD471), 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.