

# swissbit®

## Product Fact Sheet

### Industrial 2.5" SATA SSD

### X-60P Series

SATA III – 6.0 Gbit/s

**durabit™**

"the better MLC"



# X-60P Series – Industrial 2.5" SATA Solid State Drive

## Product Summary

- **Capacities:** 60 GBytes, 120 GBytes, 240 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 520 MBytes/s, Random Read IOPs up to 74,000
  - Write Performance: Sequential Write up to 355 MBytes/s, Random Write IOPs up to 75,000
- **Operating Temperature Range\*:** -40 °C to 85 °C
- **Storage Temperature Range:** -40 °C to 85 °C
- **Operating Voltage:** 5 V ± 10%
- **Power (Max Capacity):** Read (Active): 1.8 W; Write (Active): 3.1 W; Idle: 450 mW; Slumber: 75 mW
- **Data Retention:** 10 Years @ Life Begin; 1 Year @ Life End
- **Endurance in TeraBytes Written (TBW) Max Capacity†:** Client > 540; Embedded > 145; Enterprise > 135
- **Shock/Vibration:** 1,500 *g*/20 *g*
- **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
- **Electromagnetic Compatibility Tests:** Radiated Emission; Radiated Immunity; Electrostatic Discharge

## 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
- PFAIL Circuitry
- In-Field Firmware Update
- Enterprise-Grade Self-Monitoring, Analysis, and Reporting Technology (S.M.A.R.T.)
- 30 µinch Gold-Plated Connector (IPC-6012B Class 2 Compliant)
- 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.

\* 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.