swissbit®

Product Fact Sheet

Industrial
2.5" SATA SSD

X-73 Series
SATA Gen3 – 6.0 Gbit/s, 3D TLC

Commercial and Industrial
Temperature Grade

Date: August 18, 2021
Revision: 1.02

Made in Germany

swissbit®

Product Summary

- **Capacities:** 30 GBytes, 60 GBytes, 120 GBytes, 240 GBytes, 480 GBytes, 960 GBytes, 1920 GBytes
- **Form Factor:** 2.5" SATA Solid State Drive (70 mm x 100 mm x 7 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 565 MBytes/s, Random Read 4K up to 77,700 IOPS
  - Write Performance: Sequential Write up to 500 MBytes/s, Random Write 4K up to 79,400 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:** 5 V ± 10%
- **Power (Max):** Read (Active): 2.7 W; Write (Active): 3.4 W; Idle: 600 mW; Partial: 150 mW
- **Data Retention:** 10 Years @ Life Begin; 1 Year @ Life End
- **Endurance in TeraBytes Written (TBW) @ Max Capacity[2]:** Sequential WL $\geq$ 6,486; Client WL $\geq$ 734; Enterprise WL $\geq$ 1,200
- **Shock/Vibration:** 1,500 g / 50 g
- **LDPC ECC** with up to 165 bit correction per 1 KByte page
- **NAND Flash Technology:** Triple-Level Cell (TLC) 3D NAND Flash
- **Mean Time Between Failure:** > 2,000,000 hours
- **Data Reliability:** < 1 non-recoverable error per 10^{16} bits read

Product Features

- 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
- 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.)
- 15 µinch Gold-Plated Connector
- End-to-End (E2E) Data Protection
- AES256 Encryption (on request)
- TCG OPAL 2.0 Compliant (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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[1] Adequate airflow is required to ensure the temperature, as reported in the S.M.A.R.T. data, does not exceed 110°C (industrial temperature drive) and 95°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.

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Revision: 1.02
Template: Doc-3581
File: X-73_fact_sheet_Rev102
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X-ON Electronics

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ATCA7360-MMOD-SATA2   ASD25-MLC064G-CT-160-1   SQF-SM4V2-256G-SBC   SD7SN6S-128G-1122   MTFDDAA120MBB-2AE1ZABYY   SDSDQAD-128G   SM668GXB-ACS O1118   SDINADF4-64G-H   SQF-S25V4-240G-SCC   SQF-SDMM2-256G-S9E   SFSA016GQ1BJ8TO-I-DT-226-STD   MTFDDAK060MBD-1AH12ITYY   VSF202PC016G-100   AF512GSMEL-VABIP   SSDPEKKA020T801   MTFDDAK064MBD-1AH12ITYY   EP-SSMSF128AACS   APS297F064G-4BTM1GWF   HBRPEKNX0202A01   SSDPE21D015TAX1   SSDPED1D015TAX1   SSDPEKKF020T8X1   SSDPEKKR256G7XN   SSDPEKKW020T8X1   SSDPEKKW512G801   SSDPEKNW020T801   SSDPEKNW020T9X1   SSDPEL1D380GAX1   SM2280S3G2/120G   MTFDDAK1T9QDE-2AV1ZABYY   MTFDDAK3T8QDE-2AV1ZABYY   MTFDDAT128MBD-1AK12ITYY   MTFDDAV256TDL-1AW12ABYY   MTFDDAK1T0TDL-1AW12ABYY   MTFDDAV512TDL-1AW1ZABYY   MTFDDAV256TDL-1AW1ZABYY   MTFDHAL11TATCW-1AR1ZABYY   MTFDHAL12T8TDR-1AT1ZABYY   MTFDHAL1T6TCU-1AR1ZABYY   MTFDHAL1T9TCT-1AR1ZABYY   MTFDHAL3T8TCT-1AR1ZABYY   MTFDHAL3T8TDP-1AT1ZABYY   MTFDHAL6T4TCU-1AR1ZABYY   MTFDHAL7T6TCT-1AR1ZABYY   MTFDHAL7T6TDP-1AT1ZABYY   MTFDHAL8TATCW-1AR1ZABYY   MTFDHBA2T0QFD-1AX1AABYY   MTFDHBA512TCK-1AS15ABYY   MTFDHBA512TCK-1AS1AABYY   SDAPMUW-128G-1022