swissbit®

Product Fact Sheet

Industrial
M.2 2242 SATA SSD

X-86m2 Series
SATA Gen3 - 6.0 Gbit/s, 3D pSLC

Commercial and Industrial Temperature Grade

Date: February 12, 2021 Revision: 1.02



Product Fact Sheet X-86m2 Series



Product Summary

- Capacities: 10 GBytes, 20 GBytes, 40 GBytes, 80 GBytes, 160 GBytes (3D pSLC)
- Form Factor: m.2 2242 type (42 mm x 22 mm x 3.58 mm) acc. PCI-SIG
- Interface': 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-4
- Performance:
 - o Burst Transfer Rate: Up to 600 MBytes/s in SATA Gen3 6.0 Gbit/s
 - o Read Performance: Sequential Read up to 372 MBytes/s, Random Read 4K up to 13,100 IOPS
 - Write Performance: Sequential Write up to 223 MBytes/s, Random Write 4K up to 8,300 IOPS
- Operating Temperature Range²:
 - 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 (160 GBytes) typ:
 - Read (Active): 1,105 mWWrite (Active): 875 mW
 - Idle: 195 mWSlumber: 80 mWDEVSLP: 10 mW
- Data Retention: 10 Years @ Life Begin / 1 Year @ Life End
- Endurance in DiskWritesPerDay (DWPD):
 - o JEDEC Enterprise Workload: up to 2.7
 - o JEDEC Client Workload: up to 13
- **Shock/Vibration:** 1,500 *g* | 50 *g*
- High-Performance Dual Core 32-Bit Processor with Integrated, Parallel Flash Interface Engines:
 - o Triple-Level Cell (TLC) 3D NAND Flash in pSLC mode
 - o Flexible BCH and GCC ECC engines provide superior error correction performance
- High Reliability:
 - o Mean Time Between Failure (MTBF): > 2,000,000 hours @ 25°C
 - o Data Reliability: < 1 non-recoverable error per 10¹⁶ bits read
 - 30 μinch Gold-Plated Connector (IPC-6012B Class 2 Compliant)

¹ The verification of host system and storage device compatibility is in customer's responsibility. Swissbit can provide guidance and support on request.

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.