



SI3

(SATA, TLC, Industrial)

Product Datasheet

Industrial Series

SATA3 – 6Gb/s

Industrial Temperature Grade -40°C - 85°C

SI3 Series – SATA Industrial Solid State Drive

Product Specification

■ Capacity

- SI3 2.5-inch: 120GB~3840GB
- SI3 mSATA: 120GB~960GB
- SI3 M.2: 120GB~1920GB

■ Components

- Controller: Marvell 88SS1074/1079/1080
- Flash: I-Temp 3D TLC
- DRAM: DDR3

■ Compliance

- SATA 3.2 compatible with 6/3/1.5 Gb/s rates
- ATA/ATAPI ACS3 command set compliant
- Enhance SMART ATA feature set
- Data set management TRIM command
- OS aware host hot plug / removal

■ Performance (up to) *

- Sequential Read: 530 MB/s
- Sequential Write: 520 MB/s
- Random 4K Read: 85,000 IOPS
- Random 4K Write: 70,000 IOPS

■ Power Management

- DIPM / HIPM
- Auto idle
- SATA link power management
- Temperature monitoring and throttling

■ Security

- AES 256-bit encryption
- Security erase

■ Reliability

- Advanced LDPC error correction
- Global static and dynamic wear leveling
- Enhanced power loss protection
- UBER: 1 sector per 10^{17} bits read
- MTBF: 2.0 Million Hours

■ Endurance (up to)

- TBW : up to 2400TB (with 3840GB)

■ Data Retention

- JESD47 Compliant

■ Compatibility

- Windows 10/8.1/7
- Windows Server 2016/2012 R2/2012
- CentOS, Fedora, FreeBSD, openSUSE, Red Hat, Ubuntu
- VMware ESXi, Citrix, KVM

■ Mechanical Form Factor

- 2.5-inch: 100mm x 69.85mm x 7mm
- mSATA: 50.8mm x 29.85mm x 3.4mm
- M.2: 80 mm x 22 mm x 3.6 mm

■ Power Consumption (TYP)

- Active: < 5.0W
- Idle: < 0.9W

■ Environment

- Operating temperature: -40°C ~ 85°C
- Storage temperature: -45°C ~ 90°C

■ Shock & Vibration

- Operating:
50G (11ms duration, half sine wave)
- Non-Operating:
1500G (0.5ms duration, half sine wave)
- Vibration: 10G (Peak, 10~2000Hz)

■ Warranty

- 3 year

Specifications subject to change without notice.

*(1) Actual performance may vary based on hardware, software, and overall system configuration.

(2) Sequential performance is measured with 128KB transfer size, QD 32 and 4KB align with IO Meter.

(3) Random performance is sustained performance measured with 4K/8K transfer size, QD 32 and 4KB align with IO Meter.

(4) Performance Test Platform: CPU - Intel Core i7 4770K, Mother Board - ASUS Z87-DELUXE, Chipset - Intel Z87 Express, OS - Windows 8.1 Pro x64

** DWPD stands for Drive Writes Per Day. TBW = DWPD * capacity * warranty * 365 / 1000

Access patterns used for random workload during endurance testing is compliant with JESD218 standard.

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