



# SE3

## Product Datasheet

Enterprise Series

SATA3 – 6Gb/s

Commercial Temperature Grade 0°C - 70°C

# SE3 Series – SATA Enterprise Solid State Drive

## Product Specification

### ■ Capacity – SE3 Streaming

- 2.5": 240GB~3840GB
- M.2: 240GB~1920GB

### ■ Capacity – SE3 Pro

- 2.5": 480GB~3840GB
- M.2: 480GB~1920GB

### ■ Capacity – SE3 Max

- 2.5": 480GB~960GB
- M.2: 480GB

### ■ Capacity – SE3 Boot

- M.2: 240GB~480GB

### ■ Components

- Controller: Marvell 88SS1074/88SS1080
- Flash: 3D TLC
- DRAM: DDR3

### ■ Compliance

- SATA 3.2 compatible with 6/3/1.5 Gb/s rates
- ATA/ATAPI ACS3 command set compliant
- NCQ: Up to 32 Queue Depth
- 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: 535 MB/s
- Random 4K Write: 20,000 IOPS
- Random 4K Read: 90,000 IOPS
- Random 8K Write: 15,000 IOPS
- Random 8K Read: 40,000 IOPS

### ■ Power Management

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

### ■ Security (optional)

- AES 256-bit encryption
- Security erase
- Cryptographic firmware image signing

### ■ 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

### ■ Latency (QD1)

- Read: 100us
- Write: 75us

### ■ Endurance (up to)

- SE3 Streaming: 0.6 DWPD @ 5 Years  
(Sequential workload: 2 DWPD @5 Years)
- SE3 Pro: 1.5 DWPD @5 Years
- SE3 Max: > 5 DWPD @5 Years
- SE3 Boot: 1 DWPD @5 Years

### ■ 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: 100 mm x 69.85 mm x 7 mm
- M.2: 80 mm x 22 mm x 3.6 mm

### ■ Power Consumption (TYP)

- Active: < 5.0W
- Idle: < 0.5W

### ■ Environment

- Operating temperature: 0°C ~ 70°C
- Storage temperature: -45°C ~ 85°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

- 5 years