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SE3

Product Datasheet

Enterprise Series

SATA3 – 6Gb/s

Commercial Temperature Grade 0℃ - 70℃

SE3 Series – SATA Enterprise Solid State Drive

■ **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℃ ~ 70℃
- Storage temperature: -45℃ ~ 85℃

■ **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

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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.