



PE4

(PCIe, TLC, Commercial)

Product Datasheet

Enterprise Series

PCIe Gen 4

Commercial Temperature Grade 0°C - 70°C

PE4 Series – PCIe Enterprise Solid State Drive

Product Specification

■ Capacity – PE4 Streaming

- U.2: 960GB~7680GB
- E1.S: 960GB~7680GB
- M.2: 480GB~3840GB

■ Components

- Controller: Marvell 88SS1321
- Flash: 1.2GHz 3D TLC
- DRAM: LPDDR3 / DDR4

■ Compliance

- PCIe Gen 4 x 4 / Gen 4 x 2 / Gen 3 x 4
- Surprise insertion / surprise removal (SISR) and hot-plug capable (U.2/E1.S support)

■ Performance (up to) *

- Sequential Read: 3,900 MB/s
- Sequential Write: 3,000 MB/s
- Random Read: 600,000 IOPS
- Random Write: 40,000 IOPS

■ Power Management

- Auto idle
- PCIe link power management
- Temperature monitoring and throttling

■ Security

- NVM Format

■ Reliability

- Advanced LDPC error correction
- Global static and dynamic wear leveling
- UBER: 1 sector per 10^{17} bits read
- MTBF: 2.0 Million Hours
- Hardware Power Loss Protection (PLP) (For U.2 & E1.S form factor)

■ Endurance (up to)

- 0.6 DWPD @ 5 Years
(Sequential workload: 2 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

- U.2 : 100.5mm x 69.85mm x 7mm
- M.2: 80 mm x 22 mm x 3.6 mm
- E1.S: 111.49 mm x 31.5 mm x 5.9 mm

■ Power Consumption (TYP)

- Active: < 12.0W
- Idle: < 1.0W

■ Environment

- Operating temperature: 0°C ~ 70°C
- Storage temperature: -40°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 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.