PASCARI

ENTERPRISE D-SERIES

D100 PCIe Gen4 Data Center High-Speed Storage in M.2 and E1.S Form Factors

The D100 has enterprise SSD firmware optimized for data center applications that supports a high Quality of Service (QoS) in command execution completion times. Phison's business model is to customize the D100 Series SSD platform to our customers' unique application and brand requirements making the Enterprise SSD truly unique to each partner.

Product Features

Phison 4th Generation LDPC ECC Engine
While flash memory cells deteriorate with use and can generate stored data bit errors, the D100 utilizes Phison's proprietary Low Density Parity Check error-correcting code algorithm to ensure robust data entry and extraction, as well as protection from internal corruption.

Market-leading Performance
Manufactured using TSMC's 12nm process technology, the D100 is optimized for a PCIe Gen4x4 interface, enabling SSDs with maximized bandwidths and link efficiency. Paired with state-of-the-art 3D NAND flash memory chips, the D100 handles application payloads immaculately with minimal latency.

PCIe Gen4x4 and Backward Compatibility
The D100 SSD is designed with the PCIe Gen4x4 interface and the NVMe 1.4 command specification, making it an excellent performance upgrade for PCIe Gen3 and Gen4 M.2 2280 slots.

Security Features
The D100 supports the latest security and encryption standards defined by Pyrite, AES256, SHA512, and RSA4096.

PHISON

Solutions - D100P

M.2 2280				
Capacity[1]	480GB	960GB	1920GB	-
Performance[2,3] Sequential Read	6000 MB/s	6000 MB/s	6000 MB/s	-
Sequential Write	700 MB/s	1400 MB/s	1800 MB/s	-
4K Random Read	450K IOPS	750K IOPS	800K IOPS	-
4K Random Write	25K IOPS	50K IOPS	60K IOPS	-
Power Consumption[4] Max	8.5 W	9.5 W	11.0 W	-
Idle	4 W	4 W	4.2 W	-
Latency 4K Random Read	75 us	75 us	75 us	-
4K Random Write	40 us	35 us	35 us	-

M.2 22110				
Capacity[1]	480GB	960GB	1920GB	3840GB
Performance[2,3] Sequential Read	6000 MB/s	6000 MB/s	6000 MB/s	4500 MB/s
Sequential Write	700 MB/s	1400 MB/s	1800 MB/s	1700 MB/s
4K Random Read	450K IOPS	750K IOPS	800K IOPS	400K IOPS
4K Random Write	25K IOPS	50K IOPS	60K IOPS	40K IOPS
Power Consumption[4] Max	8.5 W	9.5 W	11.0 W	11.55 W
Idle	4 W	4 W	4.2 W	4.2 W
Latency 4K Random Read	75 us	75 us	75 us	80 us
4K Random Write	40 us	35 us	35 us	25 us

E1.S				
Capacity[1]	480GB	960GB	1920GB	3840GB
Performance[2,3] Sequential Read	6500 MB/s	6800 MB/s	6800 MB/s	6800 MB/s
Sequential Write	700 MB/s	1400 MB/s	2000 MB/s	1700 MB/s
4K Random Read	450K IOPS	800K IOPS	900K IOPS	650K IOPS
4K Random Write	25K IOPS	50K IOPS	60K IOPS	70K IOPS
Power Consumption[4] Max	9.5 W	10.5 W	13.5 W	12.5 W
Idle	4 W	4 W	4.2 W	4.2 W
Latency 4K Random Read	75 us	75 us	75 us	80 us
4K Random Write	40 us	30 us	25 us	25 us

Features	
Interface	PCIe 4.0 x4
NAND Flash	3D TLC
DWPD[5]	1
UBER	1 in 10^{17}
Operating Temperature	0°C - 70°C
Non-Operating Temperature	-40°C - 85°C

Key Features

- LDPC
- NVMe 1.4
- End-to-End Data Protection
- TCG Opal 2.0[6]
- Sanitize[6]
- NVME-MI[6]

(1) 1 GB = 1,000,000,000 bytes.
(2) Sequential Performance is based on FIO on Linux, 128K, with QD=32, 1 worker , and test drive set as secondary.
(3) Random Performance is based on FIO on Linux, 4K data size, QD=32, 1 worker, 4K aligned.
(4) FIO with QD32 and worker 1 for 128KB sequential read/write 1min & QD32 and worker 8 for 4KB random read/write 1min test to measure the power of active read/write.
(5) The results of DWPD are obtained in compliance with JESD219A Standards.
(6) Supported by a separate firmware setting. Further information available upon request.

Find more information and resources at: phisonenterprise.com