



ENTERPRISE X-SERIES

# Feature-Rich PCIe Gen 5 Enterprise Storage Solutions

The Phison X200 exists to support your diverse requirements in a single series. X200 delivers both single-port and dual-port modes while shipping in U.2 2.5" and E3.S form factors to give your data center reliable, and predictable performance that exceeds industry standards.



## Product Features

### Power Loss Protection

In enterprise applications, any data loss is unacceptable. To protect data against sudden power loss, the X200 SSD is designed with extra capacitors that provide power to store cached data into NAND Flash during such an event.

### End-to-End Data Path Protection

Once the data enters the X200 SSD, a parity bit is generated for each byte, which accompanies the data from the interface to the NAND storage area. This guarantees utmost integrity and protection for the user's data.

### High Reliability Standard

To ensure the reliability of the X200 series, rigorous environmental tests, mechanical tests, and reliability demonstration tests were performed on almost 2,000 drives. With an impressive MTBF of 2.5 million hours, the Phison X200 consistently and reliably handles critical tasks in servers.

### Dual Port

The Phison X200 supports dual port, which can enable an SSD to be accessed by two hosts at a time. When one data path fails, the other data path can keep operating, ensuring minimal impact on the Quality of Service (QoS).

## Solution - X200E

U.2						
	Capacity <sup>(1)</sup>	1600GB	3200GB	6400GB	12800GB	25600GB
Performance <sup>(2,3)</sup>	Sequential Read	14,800 MB/s	14,800 MB/s	14,800 MB/s	14,800 MB/s	TBD
	Sequential Write	4,300 MB/s	8,600 MB/s	8,700 MB/s	8,350 MB/s	TBD
	4K Random Read	2,400K IOPS	3,000K IOPS	3,000K IOPS	3,000K IOPS	TBD
	4K Random Write	400K IOPS	800K IOPS	900K IOPS	900K IOPS	TBD
Power Consumption <sup>(4)</sup> (Est.)	Max	25 W	25 W	25 W	30 W	35 W
	Idle	5 W	5 W	5 W	5 W	5 W
Latency	4K Random Read	60 $\mu$ s	60 $\mu$ s	60 $\mu$ s	60 $\mu$ s	60 $\mu$ s
	4K Random Write	10 $\mu$ s	10 $\mu$ s	10 $\mu$ s	10 $\mu$ s	10 $\mu$ s
E3.S						
	Capacity <sup>(1)</sup>	1600GB	3200GB	6400GB	12800GB	-
Performance <sup>(2,3)</sup>	Sequential Read	14,800 MB/s	14,800 MB/s	14,800 MB/s	14,800 MB/s	-
	Sequential Write	4,300 MB/s	8,600 MB/s	8,700 MB/s	8,350 MB/s	-
	4K Random Read	2,400K IOPS	3,000K IOPS	3,000K IOPS	3,000K IOPS	-
	4K Random Write	400K IOPS	800K IOPS	900K IOPS	900K IOPS	-
Power Consumption <sup>(4)</sup> (Est.)	Max	25 W	25 W	25 W	30 W	-
	Idle	5 W	5 W	5 W	5 W	-
Latency	4K Random Read	60 $\mu$ s	60 $\mu$ s	60 $\mu$ s	60 $\mu$ s	-
	4K Random Write	10 $\mu$ s	10 $\mu$ s	10 $\mu$ s	10 $\mu$ s	-
Features						
	Interface	PCIe 5.0 x 4				
	NAND Flash	3D TLC				
	DWPD <sup>(5)</sup>	3				
	UBER	1 in 10 <sup>18</sup>				
	Operating Temperature	0°C - 70°C				
	Non-Operating Temperature	-40°C - 85°C				
Key Features						
	Dual Port Power Loss Data Protection	Namespaces: 128 MF-QoS				

(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 for writes, QD=128, 8 workers, 4K aligned for reads.

(4) Power consumption is measured during the sequential read/write and random read/write operations performed by iometer with the conditions described in (2)(3).

(5) The results of DWPD are obtained in compliance with JESD219A Standards.



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## Solution - X200P

U.2						
	Capacity <sup>(1)</sup>	1920GB	3840GB	7680GB	15360GB	30720GB
Performance <sup>(2,3)</sup>	Sequential Read	14,800 MB/s	14,800 MB/s	14,800 MB/s	14,800 MB/s	TBD
	Sequential Write	4,300 MB/s	8,600 MB/s	8,700 MB/s	8,350 MB/s	TBD
	4K Random Read	2,400K IOPS	3,000K IOPS	3,000K IOPS	3,000K IOPS	TBD
	4K Random Write	170K IOPS	380K IOPS	500K IOPS	500K IOPS	TBD
Power Consumption <sup>(4)</sup> (Est.)	Max	25 W	25 W	25 W	30 W	35 W
	Idle	5 W	5 W	5 W	5 W	5 W
Latency	4K Random Read	60 µs	60 µs	60 µs	60 µs	60 µs
	4K Random Write	10 µs	10 µs	10 µs	10 µs	10 µs
E3.S						
	Capacity <sup>(1)</sup>	1920GB	3840GB	7680GB	15360GB	-
Performance <sup>(2,3)</sup>	Sequential Read	14,800 MB/s	14,800 MB/s	14,800 MB/s	14,800 MB/s	-
	Sequential Write	4,300 MB/s	8,600 MB/s	8,700 MB/s	8,350 MB/s	-
	4K Random Read	2,400K IOPS	3,000K IOPS	3,000K IOPS	3,000K IOPS	-
	4K Random Write	170K IOPS	380K IOPS	500K IOPS	500K IOPS	-
Power Consumption <sup>(4)</sup> (Est.)	Max	25 W	25 W	25 W	30 W	-
	Idle	5 W	5 W	5 W	5 W	-
Latency	4K Random Read	60 µs	60 µs	60 µs	60 µs	-
	4K Random Write	10 µs	10 µs	10 µs	10 µs	-
Features						
	Interface	PCIe 5.0 x 4				
	NAND Flash	3D TLC				
	DWPD <sup>(5)</sup>	1				
	UBER	1 in 10 <sup>18</sup>				
	Operating Temperature	0°C - 70°C				
	Non-Operating Temperature	-40°C - 85°C				
Key Features						
	Dual Port Power Loss Data Protection	Namespaces: 128 MF-QoS				

(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 for writes, QD=128, 8 workers, 4K aligned for reads.

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