PASCARI

ENTERPRISE D-SERIES

PCIe Gen4 Data Center High-Speed SSD

PASCARI D100P

Sequential Read

Up to 6,800 MB/s

Sequential Write

Up to 2,000 MB/s

Random Read

Up to 900K IOPS

Random Write

Up to 70K IOPS

Interface

PCIe 4.0 x4

Capacity

Up to 3.84TB

Form Factor

M.2 2280, M.2 22110, E1.S, U.2

DWPD

1

Product Features

- NVMe 1.4
- 64 Namespaces
- Power Loss Protection (PLP)
- TCG Opal 2.0 support
- AES-XTS 256-bit Encryption
- Data Integrity and Protection
- End-to-End Data Path Protection
- SECDED
- Sanitize
- NVMe-MI (Management Interface)
- SMBus

PHISON

Solution - D100P

Form Factor E1.S				
Capacity[1]	480GB	960GB	1920GB	3840GB
Interface	PCIe 4.0 x4	PCIe 4.0 x4	PCIe 4.0 x4	PCIe 4.0 x4
NVMe	1.4	1.4	1.4	1.4
NAND Flash	3D TLC	3D TLC	3D TLC	3D TLC
Performance[2,3,4]				
Sequential Read (MB/s)	6,500	6,800	6,800	6,800
Sequential Write (MB/s)	700	1,400	2,000	1,700
4K Random Read (IOPS)	450K	800K	900K	650K
4K Random Write (IOPS)	25K	50K	60K	70K
Read Latency (Typ., µs)	75	75	75	80
Write Latency (Typ., µs)	40	30	25	25
Power Consumption [5]				
Active (W)	8.4	10.1	11.9	11.8
Idle (W)	4	4	4.2	4.2
Endurance/Reliability				
DWPD[6]	1	1	1	1
UBER	< 1 sector per 10^{17} bits read	< 1 sector per 10^{17} bits read	< 1 sector per 10^{17} bits read	< 1 sector per 10^{17} bits read
MTBF (million hours)	2.0	2.0	2.0	2.0
Limited Warranty (years)	5	5	5	5
Temperature				
Operating Temp. (°C)	0 - 70	0 - 70	0 - 70	0 - 70
Non-Operating Temp. (°C)	-40 - 85	-40 - 85	-40 - 85	-40 - 85
Physical Dimension				
Length (mm)	118.75	118.75	118.75	118.75
Width (mm)	33.75	33.75	33.75	33.75
Height (mm)	9.50	9.50	9.50	9.50
Weight (g)	63	63	68	68
Part Number				
Non-SED FW	D180AK01480GP01 512G00	D180AK02960GP01 1T0200	D180AK021T92P01 2T0400	D180AK013T84P01 4T0900
SED FW	D180AK01480GP21 512G00	D180AK02960GP21 1T0200	D180AK021T92P21 2T0400	D180AK013T84P21 4T0900

(1) 1 GB = 10^9 bytes.
(2) Sequential Performance is based on FIO on Linux, 128KB data size, with QD=32, 1 job.
(3) Random Performance is based on FIO on Linux, 4KB data size, QD=32, 8 jobs.
(4) Latency is measured with random workloads based on FIO on Linux, 4KB data size, QD=1, 1 job.
(5) Power consumption (average RMS) is measured during the sequential read/write and random read/write operations performed by iometer with the conditions described in (2)(3).
(6) The results of DWPD are obtained in compliance with JESD219A standards.

PHISON

Solution - D100P

Form Factor U.2			
Capacity[1]	480GB	960GB	1920GB
Interface	PCIe 4.0 x4	PCIe 4.0 x4	PCIe 4.0 x4
NVMe	1.4	1.4	1.4
NAND Flash	3D TLC	3D TLC	3D TLC
Performance[2,3,4]			
Sequential Read (MB/s)	6,500	6,800	6,800
Sequential Write (MB/s)	700	1,400	2,000
4K Random Read (IOPS)	450K	800K	900K
4K Random Write (IOPS)	25K	50K	60K
Read Latency (Typ., µs)	75	75	75
Write Latency (Typ., µs)	35	20	20
Power Consumption [5]			
Active (W)	8.4	9.0	11.7
Idle (W)	4	4	4.2
Endurance/Reliability			
DWPD[6]	1	1	1
UBER	< 1 sector per 10^{17} bits read	< 1 sector per 10^{17} bits read	< 1 sector per 10^{17} bits read
MTBF (million hours)	2.0	2.0	2.0
Limited Warranty (years)	5	5	5
Temperature			
Operating Temp. (°C)	0 - 70	0 - 70	0 - 70
Non-Operating Temp. (°C)	-40 - 85	-40 - 85	-40 - 85
Physical Dimension			
Length (mm)	100.10	100.10	100.10
Width (mm)	69.85	69.85	69.85
Height (mm)	15.00	15.00	15.00
Weight (g)	197	197	198
Part Number			
Non-SED FW	D1808K01480GP02 512G00	D1808K02960GP02 1T0200	D1808K021T92P02 2T0400
SED FW	D1808K01480GP22 512G00	D1808K02960GP22 1T0200	D1808K021T92P22 2T0400

(1) 1 GB = 10^9 bytes.
(2) Sequential Performance is based on FIO on Linux, 128KB data size, with QD=32, 1 job.
(3) Random Performance is based on FIO on Linux, 4KB data size, QD=32, 8 jobs.
(4) Latency is measured with random workloads based on FIO on Linux, 4KB data size, QD=1, 1 job.
(5) Power consumption (average RMS) is measured during the sequential read/write and random read/write operations performed by iometer with the conditions described in (2)(3).
(6) The results of DWPD are obtained in compliance with JESD219A standards.

PHISON

Solution - D100P

Form Factor M.2 2280			
Capacity[1]	480GB	960GB	1920GB
Interface	PCIe 4.0 x4	PCIe 4.0 x4	PCIe 4.0 x4
NVMe	1.4	1.4	1.4
NAND Flash	3D TLC	3D TLC	3D TLC
Performance[2,3,4]			
Sequential Read (MB/s)	6,000	6,000	6,000
Sequential Write (MB/s)	700	1,400	1,800
4K Random Read (IOPS)	450K	750K	800K
4K Random Write (IOPS)	25K	50K	60K
Read Latency (Typ., µs)	75	75	75
Write Latency (Typ., µs)	40	35	35
Power Consumption [5]			
Active (W)	8.0	9.3	11
Idle (W)	3.5	3.5	3.5
Endurance/Reliability			
DWPD[6]	1	1	1
UBER	< 1 sector per 10^{17} bits read	< 1 sector per 10^{17} bits read	< 1 sector per 10^{17} bits read
MTBF (million hours)	2.0	2.0	2.0
Limited Warranty (years)	5	5	5
Temperature			
Operating Temp. (°C)	0 - 70	0 - 70	0 - 70
Non-Operating Temp. (°C)	-40 - 85	-40 - 85	-40 - 85
Physical Dimension			
Length (mm)	80.00	80.00	80.00
Width (mm)	22.00	22.00	22.00
Height (mm)	4.08	4.08	4.08
Weight (g)	11	12	12
Part Number			
Non-SED FW	D1802K01480GP01 512G00	D1802K02960GP01 1T0200	D1802K011T92P01 2T0400
SED FW	D1802K01480GP21 512G00	D1802K02960GP21 1T0200	D1802K011T92P21 2T0400

(1) 1 GB = 10^9 bytes.
(2) Sequential Performance is based on FIO on Linux, 128KB data size, with QD=32, 1 job.
(3) Random Performance is based on FIO on Linux, 4KB data size, QD=32, 8 jobs.
(4) Latency is measured with random workloads based on FIO on Linux, 4KB data size, QD=1, 1 job.
(5) Power consumption (average RMS) is measured during the sequential read/write and random read/write operations performed by iometer with the conditions described in (2)(3).
(6) The results of DWPD are obtained in compliance with JESD219A standards.

PHISON

Solution - D100P

Form Factor M.2 22110				
Capacity[1]	480GB	960GB	1920GB	3840GB
Interface	PCIe 4.0 x4	PCIe 4.0 x4	PCIe 4.0 x4	PCIe 4.0 x4
NVMe	1.4	1.4	1.4	1.4
NAND Flash	3D TLC	3D TLC	3D TLC	3D TLC
Performance[2,3,4]				
Sequential Read (MB/s)	6,000	6,000	6,000	3,700
Sequential Write (MB/s)	700	1,400	1,800	1,700
4K Random Read (IOPS)	450K	750K	800K	400K
4K Random Write (IOPS)	25K	50K	60K	40K
Read Latency (Typ., µs)	75	75	75	80
Write Latency (Typ., µs)	40	35	35	25
Power Consumption [5]				
Active (W)	8.1	8.9	10.3	8.7
Idle (W)	4	4	4.2	4.2
Endurance/Reliability				
DWPD[6]	1	1	1	1
UBER	< 1 sector per 10^{17} bits read	< 1 sector per 10^{17} bits read	< 1 sector per 10^{17} bits read	< 1 sector per 10^{17} bits read
MTBF (million hours)	2.0	2.0	2.0	2.0
Limited Warranty (years)	5	5	5	5
Temperature				
Operating Temp. (°C)	0 - 70	0 - 70	0 - 70	0 - 70
Non-Operating Temp. (°C)	-40 - 85	-40 - 85	-40 - 85	-40 - 85
Physical Dimension				
Length (mm)	110.00	110.00	110.00	110.00
Width (mm)	22.00	22.00	22.00	22.00
Height (mm)	4.08	4.08	4.08	4.08
Weight (g)	12.3	12.4	12.4	15
Part Number				
Non-SED FW	D1803K01480GP01 512G00	D1803K02960GP01 1T0200	D1803K011T92P01 2T0400	D1803K013T84P01 4T0900
SED FW	D1803K01480GP21 512G00	D1803K02960GP21 1T0200	D1803K011T92P21 2T0400	D1803K013T84P21 4T0900

(1) 1 GB = 10^9 bytes.
(2) Sequential Performance is based on FIO on Linux, 128KB data size, with QD=32, 1 job.
(3) Random Performance is based on FIO on Linux, 4KB data size, QD=32, 8 jobs.
(4) Latency is measured with random workloads based on FIO on Linux, 4KB data size, QD=1, 1 job.
(5) Power consumption (average RMS) is measured during the sequential read/write and random read/write operations performed by iometer with the conditions described in (2)(3).
(6) The results of DWPD are obtained in compliance with JESD219A standards.

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