



ENTERPRISE S-SERIES

Efficient SATA Storage Solution for Data Center

PASCARI SA53

Sequential Read

Up to 530 MB/s

Sequential Write

Up to 500 MB/s

Random Read

Up to 98K IOPS

Random Write

Up to 77K IOPS

Interface

SATA III

Capacity

Up to 7.68TB

Form Factor

2.5"

DWPD

1,3



Product Features

- Power Loss Protection (PLP)
- TCG Opal 2.0 Support
- AES-XTS 256-bit Encryption
- End-to-End Data Path Protection

PHISON

Solutions – SA53P

Form Factor 2.5"						
Capacity ⁽¹⁾	240GB	480GB	960GB	1.92TB	3.84TB	7.68TB
Interface	SATA III	SATA III	SATA III	SATA III	SATA III	SATA III
NAND Flash	3D TLC	3D TLC	3D TLC	3D TLC	3D TLC	3D TLC
Performance ^(2,3,4)						
Sequential Read (MB/s)	530	530	530	530	530	530
Sequential Write (MB/s)	350	500	500	500	500	500
4K Random Read (IOPS)	90K	98K	98K	98K	98K	98K
4K Random Write (IOPS)	12K	28K	32K	39K	35K	31K
Read Latency (Typ., us)	110	100	110	110	100	115
Write Latency (Typ., us)	80	40	40	30	30	30
Power Consumption ⁽⁵⁾						
Active (W)	2.3	2.9	3.2	3.3	2.9	3.1
Idle (W)	1.3	1.3	1.4	1.4	1.7	1.7
Endurance/Reliability						
DWPD ⁽⁶⁾	1	1	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	< 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	2.0	2.0
Limited Warranty (years)	5	5	5	5	5	5
Temperature						
Operating Temp. (°C)	0 - 70	0 - 70	0 - 70	0 - 70	0 - 70	0 - 70
Non-Operating Temp. (°C)	-40 - 85	-40 - 85	-40 - 85	-40 - 85	-40 - 85	-40 - 85
Physical Dimension						
Length (mm)	100.00	100.00	100.00	100.00	100.00	100.00
Width (mm)	69.85	69.85	69.85	69.85	69.85	69.85
Height (mm)	7.00	7.00	7.00	7.00	7.00	7.00
Weight (g)	56	57	59	60	62	63
Part Number						
Non-SED FW	S1201Y03240 GP02256G00	S1201Y03480 GP02512G00	S1201Y03960 GP021T0200	S1201Y031T9 2P022T0400	S1201Y033T8 4P024T0900	S1201Y037T6 8P028T1900
SED FW	S1201Y03240 GP22256G00	S1201Y03480 GP22512G00	S1201Y03960 GP221T0200	S1201Y031T9 2P222T0400	S1201Y033T8 4P224T0900	S1201Y037T6 8P228T1900

(1) 1 GB = 10⁹ 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, 1 job.

(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.

(6) The results of DWPD are obtained in compliance with JESD219A standards.



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Solutions – SA53E

Form Factor 2.5"				
Capacity ⁽¹⁾	480GB	960GB	1.92TB	3.84TB
Interface	SATA III	SATA III	SATA III	SATA III
NAND Flash	3D TLC	3D TLC	3D TLC	3D TLC
Performance ^(2,3,4)				
Sequential Read (MB/s)	530	530	530	530
Sequential Write (MB/s)	500	500	500	500
4K Random Read (IOPS)	98K	98K	98K	98K
4K Random Write (IOPS)	62K	68K	77K	68K
Read Latency (Typ., us)	100	100	100	100
Write Latency (Typ., us)	30	30	30	30
Power Consumption ⁽⁵⁾				
Active (W)	2.7	2.8	3.1	3.4
Idle (W)	1.4	1.5	1.5	1.7
Endurance/Reliability				
DWPD ⁽⁶⁾	3	3	3	3
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)	100.00	100.00	100.00	100.00
Width (mm)	69.85	69.85	69.85	69.85
Height (mm)	7.00	7.00	7.00	7.00
Weight (g)	57	59	60	62
Part Number				
Non-SED FW	S1201Y03480 GE02640G00	S1201Y03960 GE021T2800	S1201Y031T9 2E022T5600	S1201Y033T8 4E025T1200
SED FW	S1201Y03480 GE22640G00	S1201Y03960 GE221T2800	S1201Y031T9 2E222T5600	S1201Y033T8 4E225T1200

(1) 1 GB = 10⁹ 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, 1 job.

(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.

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