ENTERPRISE

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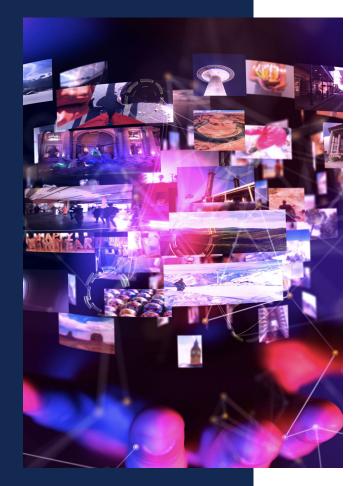
SA50 Highly Customizable and High-Endurance SATA SSD for your Enterprise

Phison Electronics SA50 SSD is a highly customizable SATA SSD solution line that scales to 15.36TB (SA50V) and up to 3 DWPD (SA50E) giving you ample options for your diverse application and cold storage needs.

PRODUCT FEATURES

Reliability
The SA50 Series SSD leverages Phison's 4th generation LDPC ECC engine which can correct up to 160 bits for each 2048 byte block through the hard decoder, and up to 400 bits for each 2048 byte block using the soft decoder. This ensures customers data is protected throughout the life of the SSD.

SATA Compatibility
The SA50 Series SSD is plug wise compatible with SATA backplanes, making it easy to install in existing backplanes as new storage, or to replace HDDs with a performance upgrade.

Excellent Scalability
The SA50 supports up to 8 NAND flash data transmitting channels with up to 32 Chip Enable (CE) counts running on mainstream NAND flash interfaces in ONFI and Toggle and allowing capacity scaling from 240 GB up to 15.36 TB.

End-to-End Data Path Protection
From the moment data enters the SA50 Series SSD, a parity bit is generated that follows each byte from the interface to the NAND storage area ensuring user data has the maximum protection in integrity.

SOLUTIONS
SA50P

2.5"						
	Capacity [1]	480GB	960GB	1920GB	3840GB	7680GB
Performance[2,3]	Sequential Read	530 MB/s	530 MB/s	530 MB/s	530 MB/s	530 MB/s
	Sequential Write	430 MB/s	500 MB/s	500 MB/s	500 MB/s	500 MB/s
	4K Random Read	96K IOPS	98K IOPS	98K IOPS	98K IOPS	97K IOPS
	4K Random Write	36K IOPS	42K IOPS	50K IOPS	37K IOPS	42K IOPS
Power Consumption[4]	Max	2.9 W	3.2 W	3.3 W	3.4 W	3.8 W
	Idle	1.3 W	1.3 W	1.4 W	1.5 W	1.6 W
Latency	4K Random Read	115 us	115 us	115 us	120 us	145 us
	4K Random Write	25 us	25 us	25 us	25 us	25 us

Features	
Interface	SATA III
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 • Power Loss Data Protection • End-to-End Data Protection

(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) 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.

Find more information and resources at: **phisonblog.com** and **phison.com**

SOLUTIONS
SA50V

2.5"				
Capacity [1]	1920GB	3840GB	7680GB	15360GB
Performance[2,3] — Sequential Read	530 MB/s	530 MB/s	530 MB/s	530 MB/s
Performance[2,3] — Sequential Write	500 MB/s	500 MB/s	500 MB/s	500 MB/s
Performance[2,3] — 4K Random Read	94K IOPS	97K IOPS	97K IOPS	94K IOPS
Performance[2,3] — 4K Random Write	13K IOPS	20K IOPS	14K IOPS	10K IOPS
Power Consumption[4] — Max	3.8 W	4.4 W	5.1 W	5.4 W
Power Consumption[4] — Idle	1.4 W	1.5 W	1.8 W	1.9 W
Latency — 4K Random Read	135 us	130 us	140 us	165 us
Latency — 4K Random Write	55 us	40 us	55 us	65 us

Features	
Interface	SATA III
NAND Flash	3D TLC
DWPD[5]	>0.4
UBER	1 in 10^{17}
Operating Temperature	0°C - 70°C
Non-Operating Temperature	-40°C - 85°C
Key Features	• LDPC • Power Loss Data Protection • End-to-End Data Protection

(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.
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