Industrial Half Slim SSD

Phison's Half Slim SSD delivers all the advantages of flash disk technology with Serial ATA III interface, and one PCB design is fully compliant with the standard Half Slim form factor based on JEDEC MO-297 standard, and another one is fully compliant with standard 2.5-inch form factor which designed based on the standard 7-pin interface for data segment and 15-pin for power segment. This module provides low power consumption compared to traditional hard drive and hot-swapping when removing/ replacing/ upgrading flash disks, as well as operating at a maximum operating frequency of 300MHz with 40MHz external crystal. Its capacity could provide a wide range up to 256GB for MLC Flash solution. Moreover, it can reach up to 520MB/s read as well as 190MB/s write high performance.

Product Feature

Rugged
- Tough industrial PCB design for industrial application.
- Working on wide temperature for system operation everywhere.
- Seal around BGA chips to have stronger connection of signals.
- SMART monitor support

Durable
- High efficiency of flash wear leveling to get larger total write byte.
- Lower Write Amplification Factor (WAF) to get much more times of host data write.
- Quick and smart flash management to collect garbage data.

Reliable
- High ECC bits to correct bit errors from flash memory.
- Over 3,500 power cycling test for data integrity as power loss.
- Flush Mechanism
  - SmartCacheFlush
  - Guaranteed Flush
- Self-Burn-In to screen out early bad blocks before shipment.

Main use	Common interfaces
Storage, Recording, Back up, Boot device, Database	Server, NAS, SAN, Surveillance, Industrial PC/machines

Specification

Solution	PS3107-S7	PS3108-S8	PS3109-S9
Capacity	1GB ~ 128GB	1GB ~ 128GB	1GB ~ 256GB
Compliance	SATA 2.0	SATA 3.0	SATA 3.0
Flash Memory	SLC/pSLC/MLC	SLC/pSLC/MLC	SLC/pSLC/MLC
Performance*[1]	Read: up to 190 MB/s Write: up to 185 MB/s	Read: up to 520 MB/s Write: up to 130 MB/s	Read: up to 510 MB/s Write: up to 190 MB/s
Power Consumption*[1]	Active mode: < 1,550 mW	Active mode: < 3,100 mW	Active mode: < 2,000 mW
Operating Voltage	DC 5.0V		
Operating Temperature	0°C ~ 70°C (Silver) -40°C ~ 85°C (Diamond)		
Reliability*[2]	IEC-60068, MIL-STD-810, ISTA 2 Series, IEC-61000		
MTBF	More than 1,000,000 hours		More than 2000,000 hours
Quality	Products are tested with both operational and non-operational status to ensure the highest qualities.		

*[1] Performance and Power Consumption may differ according to flash type, flash configuration, and platform.

*[2] All reliability tests follow international standards

Features

◯: Optional   ◎: Default

Solution	1	2	3	4	5	6	7	8
PS3107-S7		◎	◎	◎	◎	◎	◎	◯
PS3108-S8		◎	◎	◎	◎	◎	◎	◯
PS3109-S9	◯	◎	◎	◎	◎	◎	◎	◯

1 DEVSLP mode

2 Static/Dynamic Wear leveling

3 ECC (Error Correcting Code)

4 Power Lost Protection

5 SMART Function

6 TRIM

7 Over-Provision

8 pSLC