Apacer

The Most **Reliable** Storage For Industries

PH180-µSSD

Overview

Apacer PCIe BGA SSD PH180-µSSD presents a revolutionary breakthrough of NAND flash storage technology. This micro sized SSD delivers all the technological benefits in NAND based storage solution with ultra speed PCIe Gen4 x4 interface in an embedded BGA form factor, compatible with JEDEC PCIe M.2 1620. Formed in a size of an IC chip, the performance level can reach up to 4,900 MB/s for read and 3,600 MB/s for write.

PH180-µSSD is equipped with a powerful PCIe controller that supports on-the-module ECC, along with an efficient wear-leveling scheme. Additionally, it incorporates an LDPC (Low Density Parity Check) ECC engine and SLC-litex technology to extend SSD endurance up to 30,000 P/E cycles and enhance data reliability. Furthermore, PH180-µSSD is configured with thermal throttling to dynamically adjust frequency scaling, ensuring sustained performance while preventing overheating. For highly-intensive applications, End-to-End Data Protection ensures that data integrity can be assured at multiple points in the path, enabling reliable delivery of data transfers.

Security-wise, PH180-µSSD offers robust data protection by incorporating the Advanced Encryption Standard (AES) to safeguard data against unauthorized access, and Write Protect to prevent data tampering. PH180-µSSD also incorporates various advanced features, including flash block management, page mapping, power failure management, TRIM, DataRAID, and NVMe secure erase.

Apacer PH180-µSSD boasts micro size, high-speed performance, low power consumption, shock resistance, high stability and reliability. PH180-µSSD is the ideal choice for high-end industrial and 5G high-speed applications, including the Industrial IoT, cloud computing, servers and networking, defense, gaming, and high-performance computing.

Features

· Support LDPC Code

· Global Wear-Leveling Technology

· TRIM Support

· Hyper Cache Technology

· End-to-End Data Protection

· Thermal Sensor

· Power Failure Management

· S.M.A.R.T. and SSD Widget

· Write Protect (Optional)

Specifications

Model Name	PH180-uSSD
Interface	PCIe Gen4 x4
Connector	-
Form Factor	PCIe BGA SSD (291 Ball)
NAND Flash Type	3D TLC
Capacity	40GB~320GB
External DRAM	Yes
Sustained Read Performance (MB/sec.)	Up to 5,000
Sustained Write Performance (MB/sec.)	Up to 4,300
ECC Engine	Low-Density Parity-Check (LDPC) Code
IOPS (4K Random Write)	1000K
Standard Operating Temperature (°C)	-40 ~ + 85
Extended Operating Temperature (°C)	-
Storage Temperature (°C)	-40 ~ + 85
Housing	-
Thermal Sensor	Yes
Shock	-
Vibration	-
Operating Voltage	$-3.3V \pm 5\%$ or $2.5V \pm 5\%$ $-1.2V \pm 5\%$ $-0.85V \pm 5\%$
Power Consumption	Active Mode: 1410 mA / Idle Mode: 220mA
Dimension (L x W x H)	20.00 x 16.00 x 1.65,unit: mm
MTBF (Hours)	>1,500,000

Mechanical Specifications

Table 9-1 Physical Dimensions

Parameter	Unit	40 GB	80 GB	160 GB	320 GB
Length	mm	20			
Width		16			
Height		1.15	1.15	1.35	1.65
Weight	g ± 5%	0.67	0.67	0.84	1

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