Apacer

The Most **Reliable** Storage For Industries

PH160-M280

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Overview

Apacer PH160-M280 is the fastest SSD designed with M.2 2280 mechanical dimensions, providing full compliance with PCIe Gen4 x4 interface and NVMe 1.4 specifications. This enables it to operate in power management modes and significantly reduce power consumption. Equipped with a powerful PCIe controller supporting on-the-module ECC and an efficient wear leveling scheme, PH160-M280 delivers exceptionally low latency and outstanding performance in data transfer. With its compact size and high-speed storage, PH160-M280 is the ideal choice for larger, faster hosts deployed across a wide range of applications that demand exceptional performance.

Utilizing 3D NAND technology for capacities up to 1920GB and delivering superior power efficiency compared to 2D NAND, PH160-M280 goes beyond mere storage. It integrates an LDPC (Low Density Parity Check) ECC engine and SLC-liteX technology with P/E cycles support up to 100,000 times, enhancing SSD endurance and bolstering data reliability. Additionally, it features a built-in thermal sensor that monitors SSD temperature through S.M.A.R.T commands, coupled with thermal throttling to dynamically adjust frequency scaling, ensuring sustained performance while preventing overheating.

To ensure reliable operation in harsh conditions, Apacer has integrated Sidefill technology, enhancing product durability and resistance to various thermal and mechanical stresses. Furthermore, the inclusion of a graphene heat spreader aids in maintaining optimal operating temperatures, ensuring the SSD remains cool and functions correctly. For demanding applications, PH160-M280 also features End-to-End Data Protection, which safeguards data integrity at multiple points along the data transfer path, enabling dependable delivery of data transfers.

In terms of security, Advanced Encryption Standard (AES) and Trusted Computing Group (TCG) Opal (optional) safeguard data, giving users peace of mind that their information is protected against unauthorized access. PH160-M280 also includes advanced features, including flash block management, power failure management, TRIM, page mapping, SMART Read Refresh, NVMe secure erase, and power saving modes.

With exceptional performance, reliable dependability, and enhanced data protection, PH160-M280 is the ideal storage or cache solution for a variety of applications, including industrial, imaging, computing, and enterprise markets.

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Feature

· Supports large capacity of up to 1920GB

· Adopts advanced LDPC ECC engine with 3D NAND flash memory to improve reliability

· Global Wear Leveling

· Flash bad-block management

· Flash Translation Layer: Page Mapping

· Supports SSDWidget S.M.A.R.T function

· CoreGlacier™ heatsink technology

· Power Failure Management

· AES 256-bit hardware encryption

· End-to-End Data Protection

· TRIM Support

· SLC-liteX (P/E cycle: 100K)

· SMART Read Refresh™

· NVMe Secure Erase

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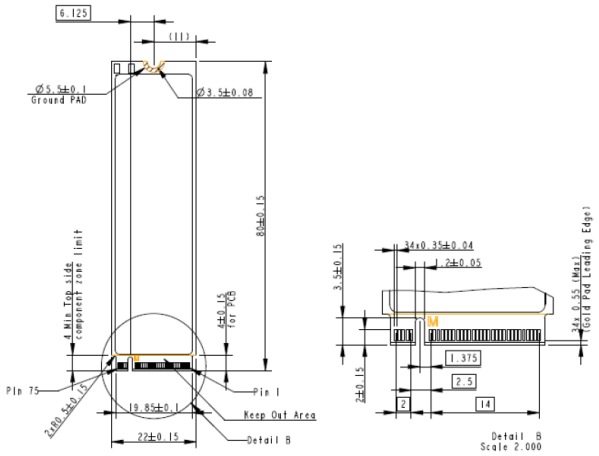
Specifications

Model	PH160-M280
Interface	PCIe Gen4 x4
Connector	Double-sided M.2 2280-M
Form Factor	M.2 2280
NAND Flash Type	3D TLC
Capacity	1280GB/1920GB
External DRAM	Yes
Sustained Read Performance (MB/sec)	Up to 7345
Sustained Write Performance (MB/sec)	Up to 6165
ECC Engine	Low-Density Parity-Check (LDPC) Code
IOPs (4K Random Write)	1378K
Extended Operating Temperature (°C)	-40 ~ + 85
Storage Temperature (°C)	-55 ~ + 100
Thermal sensor	Yes
Shock	• Operating: Acceleration, 50(G)/11(ms)/half sine (compliant with MIL-STD-202G) Non-operating: Acceleration, 1500(G)/0.5(ms)/half sine (compliant with MIL-STD-883K)
Vibration	Operation:7.69 Grms, 20~2000 Hz/random (compliant with MIL-STD-810G) Non-operation:4.02 Grms, 15~2000 Hz/random (compliant with MIL-STD-810G)
Operating Voltage	3.3V ±5%
Power Consumption	Active mode: 720 mA / Idle mode: 305 mA
Dimension (L x W x H)	100.00 x 69.85 x 7.00 (mm)
MTBF (hours)	>3,000,000

Mechanical Specification

Top View



Bottom View

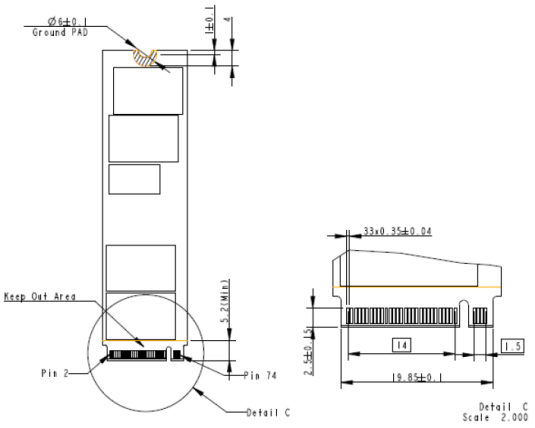


Figure 9-1 Physical Dimensions

For more information, contact your Apacer representative

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