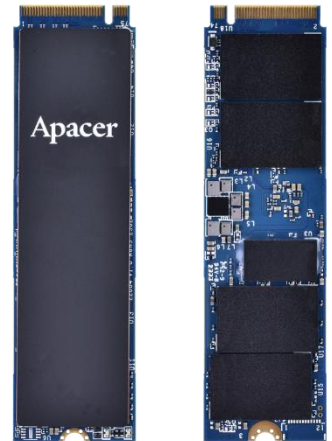# Apacer

The Most **Reliable**
Storage For Industries

PT160-M280

Apacer

Overview

Apacer PT160-M280 is the fastest SSD designed as M.2 2280 mechanical dimensions which provides full compliance with PCIe Gen4 x4 interface and NVMe 1.4 specifications, allowing it to operate in power management modes and greatly save on power consumption. Built with a powerful PCIe controller that supports on-the-module ECC as well as efficient wear leveling scheme, PT160-M280 delivers exceptionally low latency and outstanding performance in data transfer, reaching up to 909,000/517,000 and 6,970/2,310 MB/s in IOPS and sequential read/write. With the compact and high-speed storage, PT160-M280 is the ideal choice for larger, faster hosts deployed in a wide range of applications that require outstanding performance.

Utilizing 3D NAND for higher capacity up to 8TB and providing more power efficiency than 2D NAND, PT160-M280 is not only implemented with LDPC (Low Density Parity Check) ECC engine to extend SSD endurance and increase data reliability, but also equipped with a built-in thermal sensor to monitor the temperature of the SSD via S.M.A.R.T commands and configured with thermal throttling to dynamically adjust frequency scaling to enhance data reliability and provide sustained performance while overheating. To ensure that products continue to operate normally in high vibration and under extreme environmental changes, Apacer provides Sidefill technology to increase product reliability and resistance to various thermal and mechanical shocks as well as a graphene heat spreader to help keep an SSD cool and functioning correctly. For highly-intensive applications, End-to-End Data Protection ensures that data integrity can be assured at multiple points in the path to enable reliable delivery of data transfers.

In terms of security, Advanced Encryption Standard (AES) and Trusted Computing Group (TCG) Opal (optional) ensure data security and provides users with peace of mind knowing their data is safeguarded against unauthorized use at all times. PT160-M280 also adopts the latest page mapping file translation layer and comes with various implementations including power saving modes, wear leveling, flash block management, power failure management, TRIM, SMART Read Refresh, and NVMe secure erase. With exceptional performance, trustable reliability, and enhanced data protection, PT160-M280 is definitely the ideal storage or cache solution for a variety of applications ranging from industrial, imaging, computing to enterprise markets.
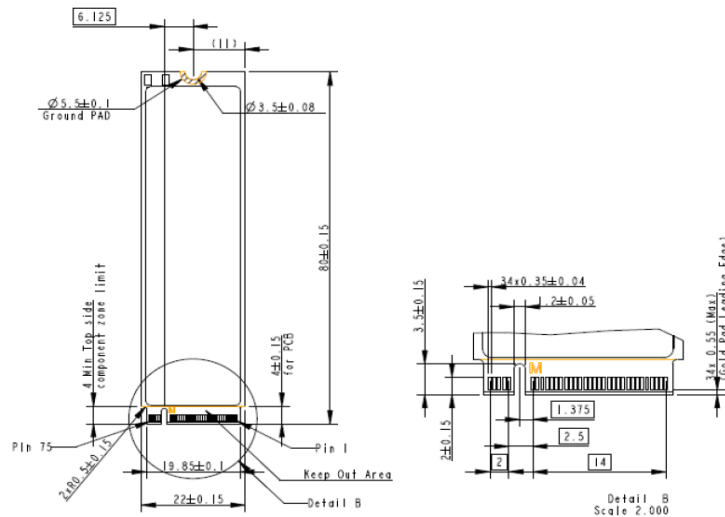
Feature

- Supports large capacity of up to 8TB (standard) and 4TB (wide-temp)

- 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

- Heat spreader technology

- Power Failure Management

- Support TCG Opal 2.0/AES 256-bit encryption

- AES 256-bit hardware encryption

- End-to-End Data Protection

- TRIM Support

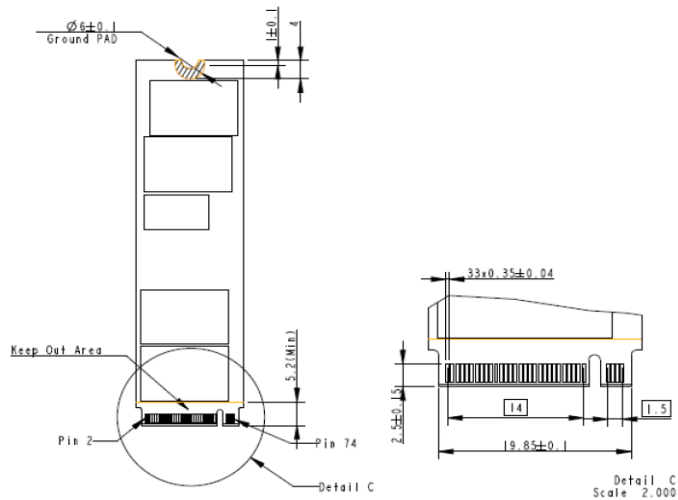- SMART Read Refresh™

- NVMe Secure Erase

Specifications

Model	PT160-M280
Interface	PCIe Gen4 x4
Connector	Double-sided M.2 2280-M
Form Factor	M.2 2280
NAND Flash Type	3D TLC
Capacity	4TB ~ 8TB
External DRAM	Yes
Sequential Read Performance (MB/sec)	Up to 6970
Sequential Write Performance (MB/sec)	Up to 2310
ECC Engine	Low-Density Parity-Check (LDPC) Code
IOPs (4K Random Write)	517K
Standard Operating Temperature (°C)	0 ~ +70
Extended Operating Temperature (°C)	-40 ~ +85 (8TB not support)
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: 3750 mA / Idle mode:900 mA
Dimension (L x W x H)	22.00 x 80.00 x 4.08 (max.) (mm)
MTBF (hours)	>3,000,000

Mechanical Specification

Top View

Bottom View

Unit: mm

For more information,
contact your Apacer representative

Global Presence