Apacer

The Most **Reliable**
Storage For Industries

PT250-M280

PT250-M280

Overview

Apacer PT250-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, PT250-M280 delivers outstanding performance in data transfer, reaching up to 570,000/677,000 and 3,700/3,485 MB/s in IOPS and sequential read/write. With the compact and high-speed storage, PT250-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 2TB and providing more power efficiency than 2D NAND, PT250-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 increase product reliability and resistance to various thermal and mechanical shocks, PT250-M280 also provides Sidefill technology to ensure that products continue to operate normally in high vibration and under extreme environmental changes. 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) ensures data security and provides users with peace of mind knowing their data is safeguarded against unauthorized use at all times. PT250-M280 also adopts the latest page mapping file translation layer and comes with various implementations including power saving modes, wear leveling, flash block management, S.M.A.R.T., DataDefender™, TRIM, Hyper Cache technology, SMART Read Refresh™ and NVMe Secure Erase. With exceptional performance, trustable reliability and enhanced data protection, PT250-M280 is definitely the ideal storage or cache solution for a variety of applications ranging from industrial, imaging, computing to enterprise markets.
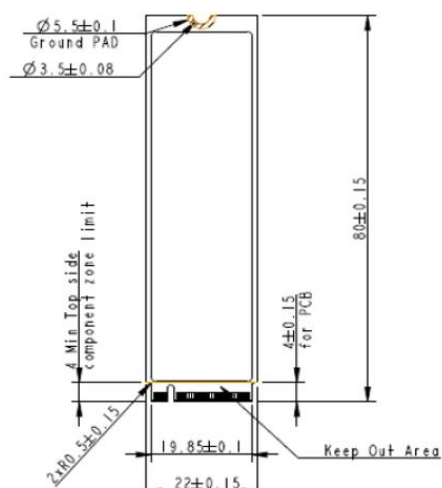
PT250-M280

Feature

- 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™ Heat spreader Design

- Power Failure Management

- Support TCG Opal 2.0/AES 256-bit encryption

- End-to-End Data Protection

- TRIM Support

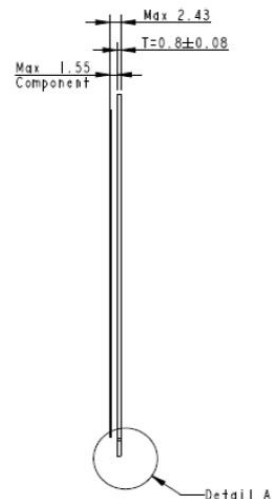- SMART Read Refresh™

- NVMe Secure Erase

Specifications

Model	PT250-M280
Interface	PCIe Gen4 x4
Connector	M.2 M Key
Form Factor	M.2 2280
NAND Flash Type	3D TLC
Capacity	128GB-2TB
External DRAM	No
Sequential Read Performance (MB/sec)	Up to 3700
Sequential Write Performance (MB/sec)	Up to 3485
ECC Engine	Low-Density Parity-Check (LDPC) Code
IOPS (4K Random Write)	677K
Standard Operating Temperature (˚C)	0 ~ + 70
Extended Operating Temperature (˚C)	-
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: 1280 mA / Idle mode: 305 mA
Dimension (L x W x H)	Single side: 22.00 x 80.00 x 4.08 (mm)
MTBF (hours)	>3,000,000

Mechanical Specification

Top view

Ø5.5±0.1
Ground PAD
Ø3.5±0.08

4 Min Top side
component zone limit

80±0.15

4±0.15
for PCB

2×R0.5±0.15

19.85±0.1

22±0.15

Keep Out Area

Side view

Max 2.43

T=0.8±0.08

Max 1.55
Component

Detail A

Bottom side

Ø6±0.1
Ground PAD

1±0.1

4

5.2(Min)

Keep Out Area

α

2+20°±5°

0.2 Min

0.3±0.25

Detail A
Scale 5.000
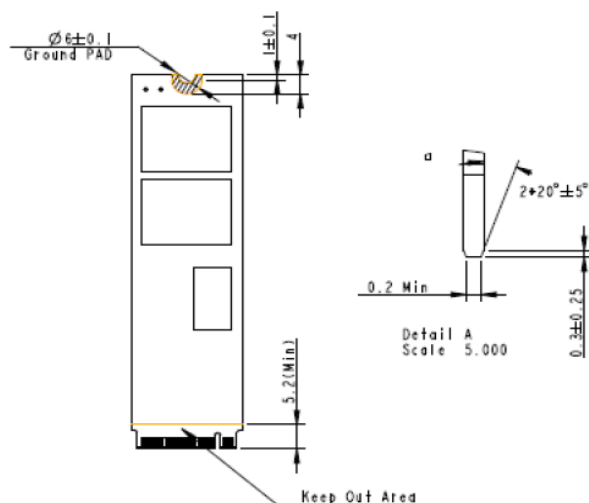
Unit: mm

For more information,
contact your Apacer representative

Global Presence