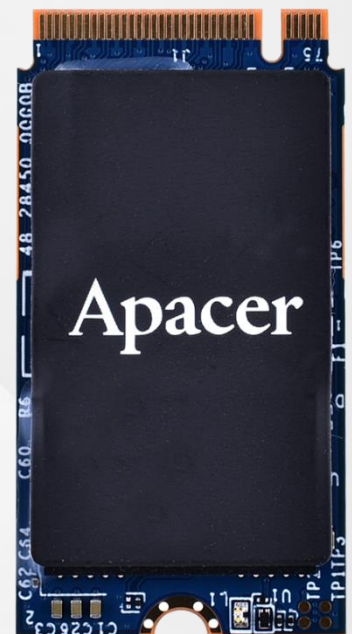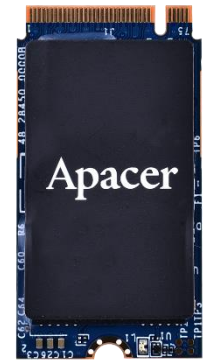# Apacer

The Most **Reliable**
Storage For Industries

PV250-M242

Overview

Apacer PV250-M242 is a high-performance SSD designed in the M.2 2242 form factor, fully compliant with PCIe Gen4 x4 interface and NVMe 2.0 specifications. This design enables efficient power management modes, significantly reducing power consumption. Equipped with a powerful PCIe controller that supports on-the-module ECC and an efficient wear leveling scheme, PV250-M242 delivers exceptionally low latency and outstanding data transfer performance. With its compact and high-speed storage, PV250-M242 is ideal for advanced host systems across a wide range of applications that demand exceptional performance.

Utilizing 3D NAND technology for capacities up to 3840GB and offering greater power efficiency than 2D NAND, PV250-M242 features an LDPC (Low-Density Parity Check) ECC engine to enhance SSD endurance and increase data reliability. Additionally, it is equipped with a built-in thermal sensor to monitor the SSD's temperature via S.M.A.R.T commands and is configured with thermal throttling to dynamically adjust frequency scaling, ensuring data reliability and sustained performance under overheating conditions. To maintain normal operation in high-vibration and extreme environmental conditions, PV250-M242 incorporates Sidefill technology to enhance product reliability and resistance to various thermal and mechanical shocks. It also includes a graphene heat spreader to keep the SSD cool and functioning correctly. For highly-intensive applications, End-to-End Data Protection ensures data integrity at multiple points along the data transfer path, enabling reliable data delivery.

In terms of security, Advanced Encryption Standard (AES) and Trusted Computing Group (TCG) Opal (optional) protect data, providing users with confidence that their information is secure from unauthorized access. PV250-M242 also includes advanced features such as flash block management, DataDefender, TRIM, page mapping, over-provisioning, Hyper Cache technology, SMART Read Refresh, and power-saving modes.

With its exceptional performance, reliable dependability, and enhanced data protection, PV250-M242 is the ideal storage or cache solution for a variety of applications, including industrial, imaging, computing, and enterprise markets.
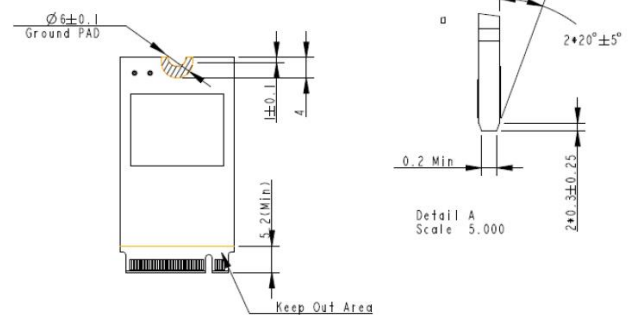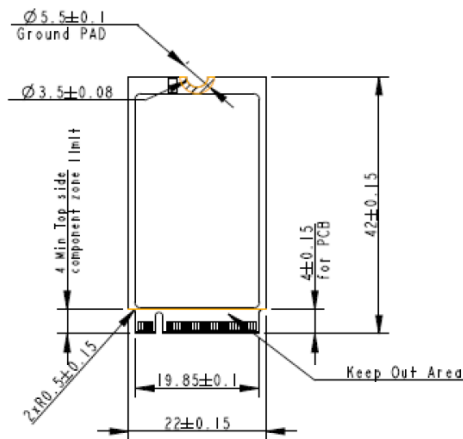
Feature

- Low-Density Parity-Check (LDPC) Code

- Global Wear Leveling

- Flash bad-block management

- Flash Translation Layer: Page Mapping

- DataDefenderTM

- S.M.A.R.T.

- TRIM

- SLC-liteX (P/E cycle: 100K)

- SMART Read RefreshTM

- NVMe Secure Erase

Apacer

Specifications

Model	PV250-M242
Interface	PCIe Gen4 x4
Connector	Double-sided: M.2 2242 M key
Form Factor	M.2 2242
NAND Flash Type	3D TLC
Capacity	120GB-3840GB
External DRAM	No
Sustained Read Performance (MB/sec)	Up to 3,740
Sustained Write Performance (MB/sec)	Up to 3,350
ECC Engine	Low-Density Parity-Check (LDPC) Code
IOPs (4K Random Write)	576K
Standard Operating Temperature (°C)	0 ~ + 70
Extended Operating Temperature (°C)	-40~+85
Storage Temperature (°C)	-55 ~ + 100
Housing	No
Thermal sensor	Yes
Shock	Operation: Acceleration, 50(G)/11(ms)/half sine (compliant with MIL-STD-202G) Non-operation: 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: 1735 mA / Idle mode: 315mA
Dimension (L x W x H)	22.00 x 42.00 x 4.08(max.)
MTBF (hours)	>3,000,000

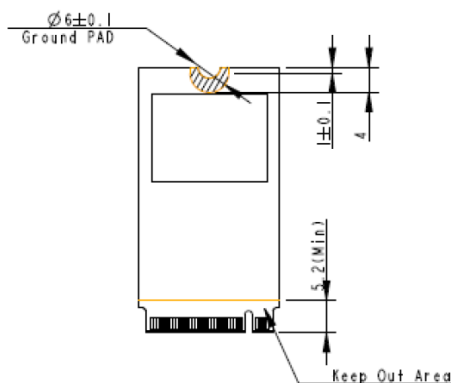# Mechanical Specification

Top View
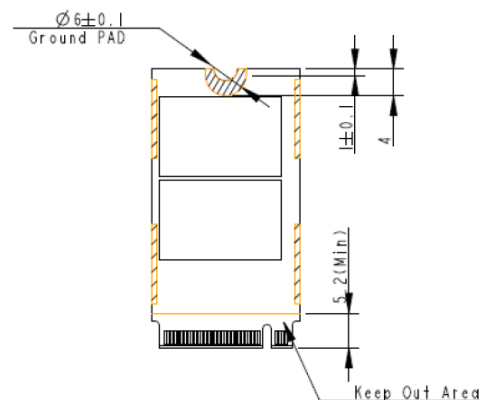

Bottom side

Figure 10-1 Physical Dimensions

Figure 10-1 Physical Dimensions

For more information,
contact your Apacer representative

Global Presence