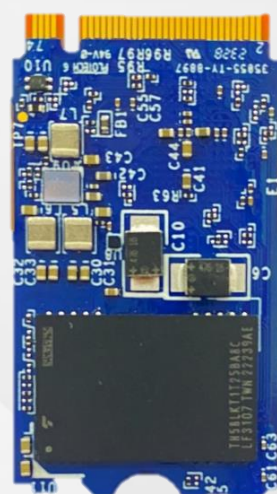


Apacer

The Most **Reliable**
Storage For Industries

PV25P-M242



Overview

Apacer PV25P-M242 is the fastest SSD designed with M.2 2242 mechanical dimensions, providing full compliance with PCIe Gen4 x4 interface and NVMe 2.0 specifications. This allows it to operate in power management modes, greatly saving on power consumption. Built with a powerful PCIe controller that supports on-the-module ECC as well as an efficient wear-leveling scheme, PV25P-M242 delivers exceptionally low latency and outstanding performance in data transfer. With its compact design and high-speed storage capabilities, PV25P-M242 is the ideal choice for larger, faster hosts deployed in a wide range of applications that demand outstanding performance.



Utilizing 3D NAND technology for higher capacities up to 1TB and offering superior power efficiency compared to 2D NAND, PV25P-M242 is equipped with advanced features to enhance SSD performance and reliability. It incorporates an LDPC (Low Density Parity Check) ECC engine to extend SSD endurance and enhance data reliability. Additionally, the SSD is equipped with a built-in thermal sensor that utilizes S.M.A.R.T commands to monitor temperature, along with thermal throttling functionality that dynamically adjusts frequency scaling to maintain optimal performance and prevent overheating.

Featuring CorePower technology, PV25P-M242 ensures data integrity and stable transmission even during unexpected power loss. This is achieved through a backup power supply using tantalum capacitors, allowing sufficient time to transfer cached data to NAND flash. To enhance reliability in high-vibration environments and extreme conditions, Apacer integrates Sidefill technology, bolstering resistance to thermal and mechanical stress. 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, PV25P-M242 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.

From a security standpoint, the Advanced Encryption Standard (AES) safeguards data, providing users with confidence that their data is protected against unauthorized access. PV25P-M242 incorporates various features, including flash block management, TRIM, page mapping, Hyper Cache technology, SMART Read Refresh, NVMe secure erase, and power saving modes.

With exceptional performance, trustable reliability, and enhanced data protection, PV25P-M242 is definitely the ideal storage or cache solution for a variety of applications ranging from industrial, imaging, computing to enterprise markets.

Feature

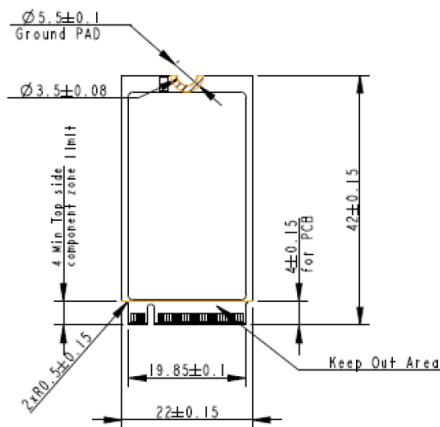
- Low-Density Parity-Check (LDPC) Code
- Global Wear Leveling
- Flash bad-block management
- Flash Translation Layer: Page Mapping
- DataDefender™
- S.M.A.R.T.
- TRIM
- SLC-liteX (P/E cycle: 100K)
- SMART Read Refresh™
- NVMe Secure Erase

Specifications

Model	PV25P-M242
Interface	PCIe Gen4 x4
Connector	Double-sided: M.2 2242 M key
Form Factor	M.2 2242
NAND Flash Type	3D TLC
Capacity	240GB-960GB
External DRAM	No
Sustained Read Performance (MB/sec)	Up to 3,740
Sustained Write Performance (MB/sec)	Up to 2,945
ECC Engine	Low-Density Parity-Check (LDPC) Code
IOPs (4K Random Write)	590K
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: 1350 mA / Idle mode: 310mA
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

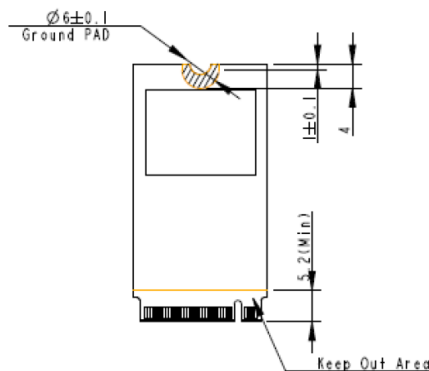


Figure 10-1 Physical Dimensions

For more information,
contact your Apacer representative

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