Apacer
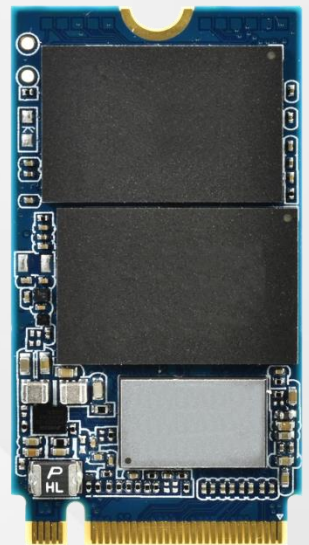
The Most **Reliable**
Storage For Industries
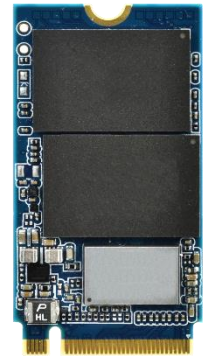
PT15R-M242

Overview

Apacer PT15R-M242 is the fastest SSD designed with M.2 2242 mechanical dimensions, fully compliant with the PCIe Gen3 x4 interface and NVMe 1.3 specifications. This compliance enables it to operate in 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, PT15R-M242 delivers exceptionally low latency and outstanding data transfer performance. Its compact, high-speed storage makes it the ideal choice for larger, faster hosts in a wide range of applications requiring superior performance.

Leveraging 3D NAND technology for capacities of up to 512GB and offering greater power efficiency than 2D NAND, PT15R-M242 integrates an LDPC (Low-Density Parity Check) ECC engine to enhance SSD endurance and data reliability. It also features a built-in thermal sensor to monitor SSD temperatures via S.M.A.R.T commands, complemented by thermal throttling that dynamically adjusts frequency scaling to ensure sustained performance and prevent overheating. For highly intensive applications, End-to-End Data Protection ensures data integrity at multiple points along the data transfer path, ensuring reliable delivery.

In terms of flash management, PT15R-M242 incorporates various advanced features, including flash block management, page mapping, TRIM, power failure management, Hyper Cache technology, DataRAID, NVMe secure erase, and power-saving modes.
With exceptional performance and enhanced reliability, PT15R-M242 is the ideal storage or cache solution for a variety of applications, including industrial, imaging, computing, and enterprise markets.

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

· Power Failure Management

· End-to-End Data Protection

· TRIM Support

· SMART Read Refresh™

· NVMe Secure Erase

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Specifications

Model	PT15R-M242
Interface	PCIe Gen3 x4
Connector	Double-sided M.2 2242-D2-M
Form Factor	M.2 2242
NAND Flash Type	3D TLC
Capacity	64GB ~ 512GB
External DRAM	No
Sustained Read Performance (MB/sec)	Up to 2445
Sustained Write Performance (MB/sec)	Up to 1750
ECC Engine	Low-Density Parity-Check (LDPC) Code
IOPS (4K Random Write)	235K/399K
Standard Operating Temperature (℃)	0 ~ + 70
Storage Temperature (℃)	-40 ~ 85
Shock	Non-operating: 1,500(G), half-sine wave
Vibration	Non-operation: Frequency/Displacement: 20Hz~80Hz/1.52mm Frequency/Acceleration: 80Hz~2000Hz/20G
Operating Voltage	3.3V ±5%
Power Consumption	Active mode: 905 mA / Idle mode: 180mA
Dimension (L x W x H)	22.00 x 42.00 x 3.58 (max) (mm)
MTBF (hours)	>2,000,000

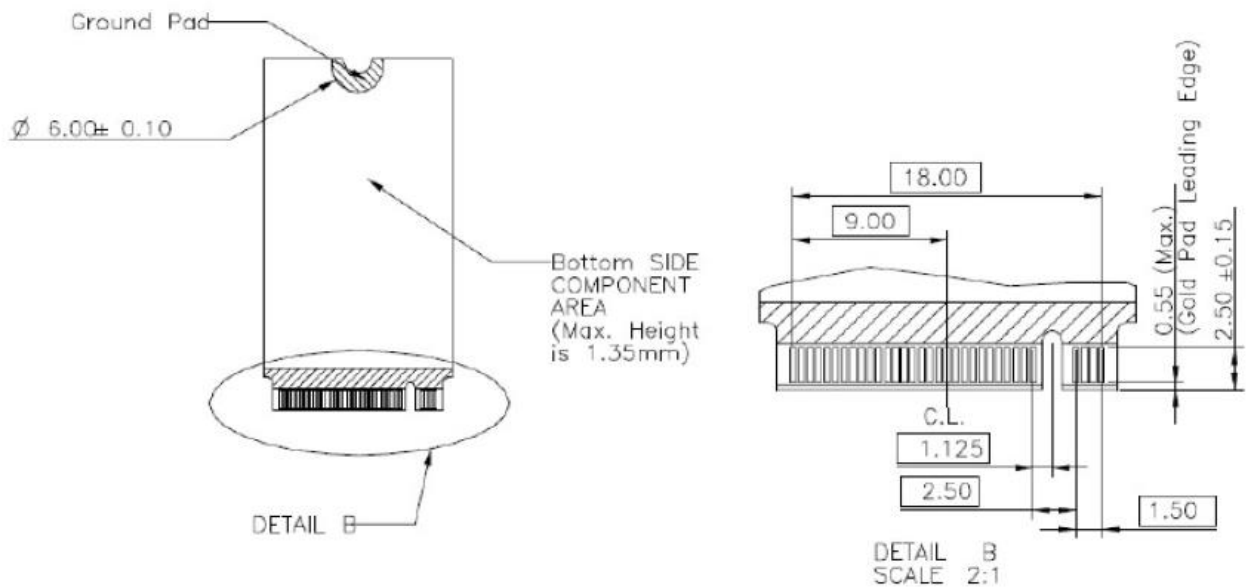# Mechanical Specification

Bottom View

Figure 10-1 Physical Dimensions

Notes :
1. ▨ = Max Component Height
2. ▨ = No Component
3. ▨ = No Component / Signal Vias / Signal Copper / Printing
4. General Tolerance ±0.15mm
5. ⬭ are critical dimensions

For more information,
contact your Apacer representative

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