

The Most **Reliable**
Storage For Industries

PH230-M242



Overview

PH230-M242

Apacer PH230-M242 is a high-performance SSD designed in M.2 2242 mechanical dimensions, offering full compliance with PCIe Gen3 x4 interface and NVMe 1.4 specifications. It supports power management modes, significantly reducing power consumption. Built with a powerful PCIe controller that features on-the-module ECC and an efficient wear leveling scheme, PH230-M242 delivers exceptionally low latency and outstanding data transfer performance. Its compact design and high-speed storage make it the ideal choice for larger, faster hosts deployed across a wide range of applications requiring top-tier performance.



Utilizing 3D NAND technology for capacities of up to 320GB and offering superior power efficiency compared to 2D NAND, PH230-M242 is equipped with advanced features to enhance its performance and reliability. It incorporates an LDPC (Low Density Parity Check) ECC engine and SLC-liteX technology to extend SSD endurance with P/E cycles of up to 100,000 times, ensuring increased data reliability over time. Additionally, it features a built-in thermal sensor that monitors the SSD's temperature via S.M.A.R.T commands and is configured with thermal throttling to dynamically adjust frequency scaling. This ensures enhanced data reliability and sustained performance, even under high temperatures.

To further mitigate heat-related damage, PH230-M242 integrates a heat spreader that efficiently transfers heat while maintaining high-speed performance. Additionally, to ensure stable operation in high-vibration and extreme environmental conditions, it incorporates Sidefill technology to enhance product reliability and resistance to various thermal and mechanical shocks. For highly-intensive applications, End-to-End Data Protection ensures data integrity at multiple points along the data transfer path, providing reliable data delivery.

In terms of security, PH230-M242 offers robust data protection with Advanced Encryption Standard to safeguard against unauthorized access. It also incorporates various advanced features, including bad block management, DataDefender™, TRIM, page mapping, DataRAID™, Smart Read Refresh™, and power saving modes.

With exceptional performance, proven reliability, and enhanced data protection, PH230-M242 is the ideal storage or cache solution for a variety of applications, including industrial, imaging, computing, and enterprise markets.

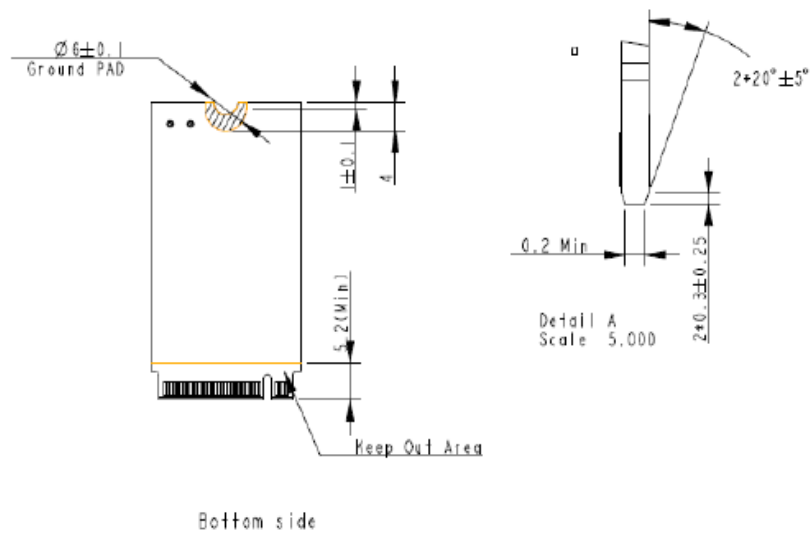
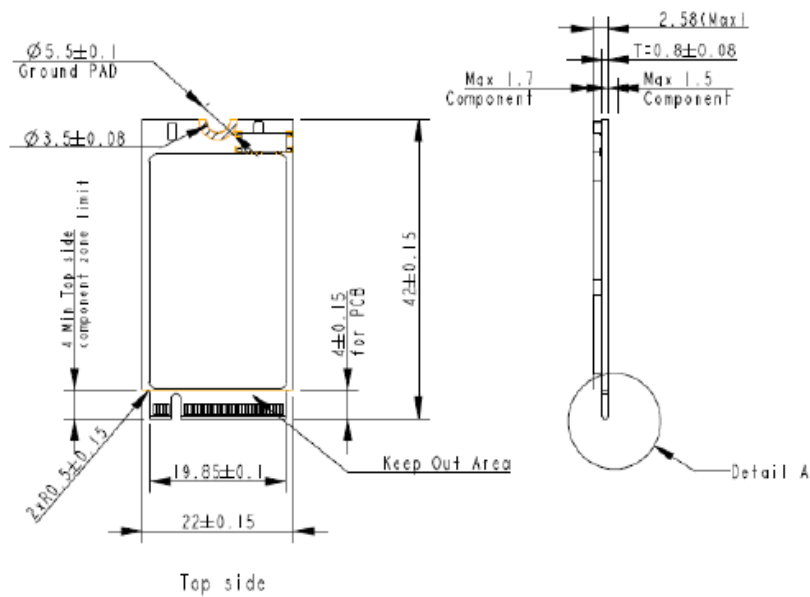
Features

- Error Correction/Detection
- Bad Block Management
- Global Wear Leveling
- DataDefender™
- TRIM
- Flash Translation Layer: Page Mapping
- SLC-liteX (P/E cycles: 100K)
- DataRAID™
- Smart Read Refresh™
- S.M.A.R.T.

Specifications

Model Name	PH230-M242
Interface	PCIe Gen3 x4
Connector	Single-sided: M.2 2242 M Key Double-sided: M.2 2242-M Key
Form Factor	M.2 2242
NAND Flash Type	3D TLC
Capacity	40GB~320GB
External DRAM	No
Sustained Read Performance (MB/sec.)	Up to 3655
Sustained Write Performance (MB/sec.)	Up to 2560
ECC Engine	Low-Density Parity-Check (LDPC) Code
IOPS (4K Random Write)	321K
Standard Operating Temperature (°C)	0 ~ 70
Extended Operating Temperature (°C)	-40 ~ 85
Storage Temperature (°C)	-55 ~ 100
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: 1,260 mA / Idle mode: 215mA
Dimension (L x W x H)	Single-sided: 22.00 x 42.00 x 2.58 mm (max.) Double-sided: 22.00 x 42.00 x 4.08 mm (max.)
MTBF (Hours)	>3,000,000

Mechanical Specifications



**For more information,
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