

The Most **Reliable**  
Storage For Industries

**PV93E-M2110**



## Overview

### PV93E-M2110

Apacer PV93E-M2110 is a high-performance and high endurance NVMe SSD designed as the standard M.2 form factor utilizing 112-layer 3D TLC NAND Flash. PV93E-M2110 supports PCIe Gen4 x4 interface and provides full compliance with NVMe 1.4 specifications, allowing the PCIe SSD to operate more effectively than SATA SSDs and greatly save on power consumption.



PV93E-M2110 delivers outstanding, stable performance up to 7,335 MB/s for sequential read and 6,475 MB/s for sequential write and ultra-low latency with optimized QoS. PV93E-M2110 also presents better energy efficiency than traditional hard drives, extended endurance of more than 1 drive writes per day for 5 years and all the advantages of NAND Flash management technologies to ensure data integrity and highest levels of reliability, making it particularly suited for read-intensive, mixed-use workload applications.

PV93E-M2110 features enterprise-class reliability features implemented on both hardware and firmware levels. On the hardware level, PV93E-M2110 is not only built with a powerful PCIe controller that supports on-the-module ECC as well as LDPC (Low Density Parity Check) ECC engine to extend SSD endurance and increase data reliability, but also designed with graphene heat spreader, demonstrating exceptional thermal dissipation to keep the drive cool while maintaining maximum performance.

With the support of CorePower, PV93E-M2110 ensures data integrity and stability of data transmission in the event of unexpected power loss. This is achieved by implementing a backup power supply with tantalum capacitors, which provide sufficient time to transfer all cached data to NAND flash. To increase product reliability and resistance to various thermal and mechanical shocks, PV93E-M2110 also provides Sidefill technology to ensure that products continue to operate normally in high vibration and under extreme environmental changes.

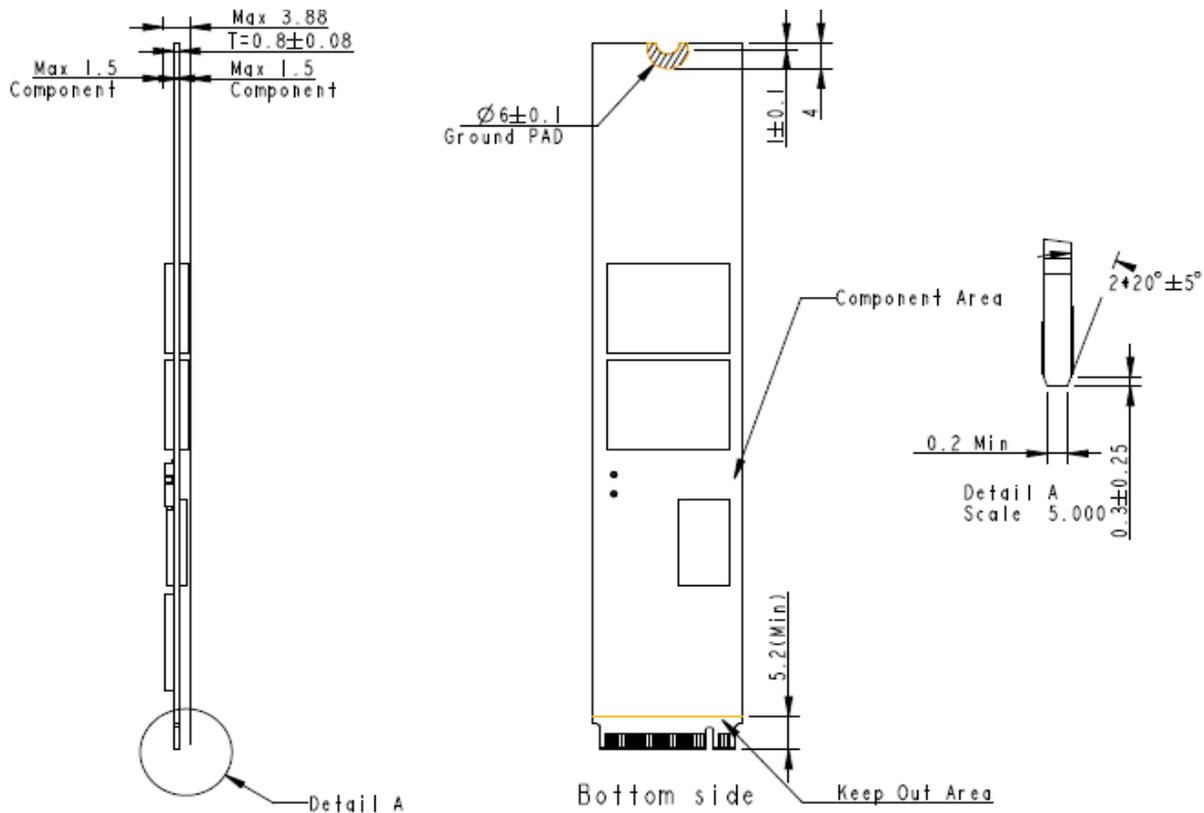
## Features

- Low-Density Parity-Check (LDPC) Code
- Global Wear Leveling
- Flash Bad-block Management
- Flash Translation Layer: Page Mapping
- DataDefender™
- S.M.A.R.T. Function
- TRIM
- Hyper Cache Technology
- Over-Provisioning
- SMART Read Refresh™
- Signed Firmware
- CorePower
- Thermal Sensor
- Thermal Throttling
- End-to-End Data Protection
- Sidefill Technology
- Heatsink design

## Specifications

<b>Model Name</b>	PV93E-M2110
<b>Interface</b>	PCIe Gen4 x4
<b>Connector</b>	M Key
<b>Form Factor</b>	M.2 22110
<b>NAND Flash Type</b>	3D TLC
<b>Capacity</b>	480GB~1920GB
<b>External DRAM</b>	Yes
<b>Sustained Read Performance (MB/sec.)</b>	Up to 7335
<b>Sustained Write Performance (MB/sec.)</b>	Up to 6475
<b>Sustained Read Performance (IOPS)</b>	912K
<b>Sustained Write Performance (IOPS)</b>	47K
<b>ECC Engine</b>	Low-Density Parity-Check (LDPC) Code
<b>IOPS (4K Random Read/Write)</b>	1083K
<b>Random R/W Latency</b>	65/77 $\mu$ s
<b>Random R/W QoS</b>	0.10/0.34 ms
<b>Standard Operating Temperature ( °C )</b>	0°C ~ 70°C
<b>Storage Temperature ( °C )</b>	-55°C ~ + 100°C
<b>Thermal Sensor</b>	Yes
<b>Shock</b>	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)
<b>Vibration</b>	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)
<b>Operating Voltage</b>	3.3V $\pm$ 5%
<b>Power Consumption</b>	Active Mode: 9.45W/ Idle Mode: 1.95W
<b>Dimension (L x W x H )</b>	19.85 x 110.00 x 4.08 mm
<b>MTBF (Hours)</b>	>3,000,000

## Mechanical Specifications



Unit: mm

**For more information,  
contact your Apacer representative**

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