Apacer

The Most **Reliable**
Storage For Industries

SH25P-M280

Overview

SH25P-M280 is the next-generation Solid State Drive (SSD) with a compact size and excellent performance. Designed with a SATA 6 Gb/s interface, SH25P-M280 fully complies with the latest SATA Revision 3.2 interface specifications and delivers exceptional read/write speeds, making it the leading add-in storage solution for future host computing systems.

Utilizing 3D NAND technology to offer expanded capacity of up to 640GB and boasting superior power efficiency compared to 2D NAND, SH25P-M280 is equipped with a robust SATA controller supporting on-the-module ECC and an efficient wear leveling scheme. Additionally, it incorporates an LDPC (Low Density Parity Check) ECC engine and SLC-liteX technology, supporting P/E cycles of up to 100,000 times to extend SSD endurance and enhance data reliability.

Featuring CorePower technology, SH25P-M280 guarantees the integrity and stability of data transmission in the event of an unexpected power loss. This is achieved through a backup power supply featuring tantalum capacitors, allowing sufficient time to transfer all cached data to NAND flash. Furthermore, SH25P-M280 is outfitted with a built-in thermal sensor to monitor the SSD temperature via S.M.A.R.T commands, preventing overheating.

To ensure seamless operation in high vibration and extreme environmental conditions, Apacer incorporates Sidefill technology to enhance product reliability and resistance to thermal and mechanical stress. For highly-intensive applications, End-to-End Data Protection guarantees data integrity at multiple points along the transmission path, enabling dependable data transfers.

Security-wise, Advanced Encryption Standard (AES) ensures data security and provides users with peace of mind knowing their data is safeguarded against unauthorized use at all times. SH25P-M280 also adopts the latest page mapping file translation layer and comes with various implementations including flash block management, TRIM, ATA secure erase, device sleep, DataRAID, SMART Read Refresh, and power saving modes.

With exceptional performance, trustable reliability, and enhanced data protection, SH25P-M280 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

· S.M.A.R.T.

· ATA Secure Erase

· Device Sleep

· TRIM

· SLC-liteX (P/E cycles: 100K)

· DataRAID

· SMART Read Refresh

· SATA Power Management

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Specifications

Model	SH25P-M280
Interface	SATA 3.2 (6Gb/s)
Connector	M.2 B & M key
Form Factor	M.2 2280-D5-B-M
NAND Flash Type	3D TLC
Capacity	40GB~640GB
External DRAM	No
Sustained Read Performance (MB/sec)	Up to 560
Sustained Write Performance (MB/sec)	Up to 510
ECC Engine	Low-Density Parity-Check (LDPC) Code
IOPs (4K Random Write)	69K
Standard Operating Temperature (°C)	0 ~ + 70
Extended Operating Temperature (°C)	-40 ~ + 85
Storage Temperature (°C)	-55 ~ + 100
Thermal sensor	Yes
Shock	Operation: 50G/11ms (compliant with MIL-STD-202G) Non-operation: 1500G/0.5ms (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	3.3 V ± 5%
Power Consumption	Active mode: 430 mA / Idle mode: 70 mA
Dimension (L x W x H)	Double side: 22.00 mm x 80.00 mm x 3.88 mm
MTBF (hours)	>3,000,000

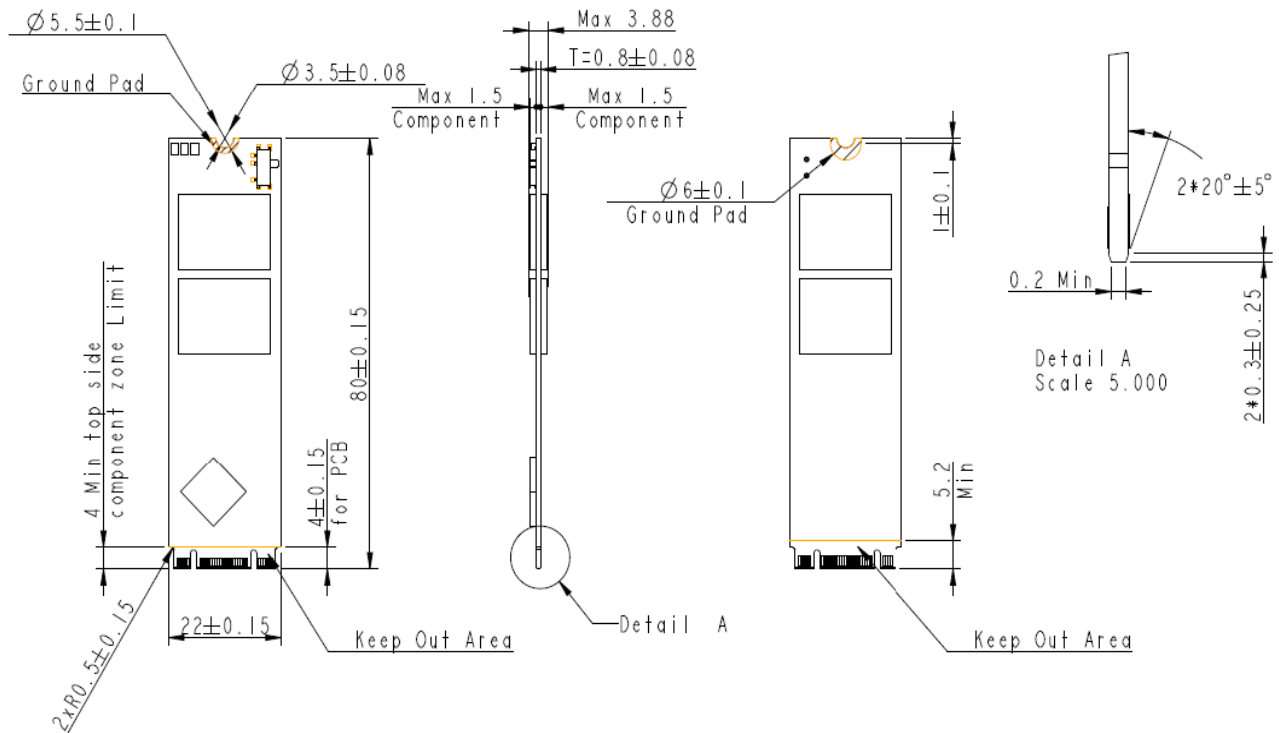# Mechanical Specification

Figure 9-1 Physical Dimensions

Unit: mm

For more information,
contact your Apacer representative