

Apacer

The Most **Reliable**
Storage For Industries

SH25P-CFast



Overview

Apacer's SH25P-CFast represents a significant advancement in the conventional CFast form factor, offering a range of technological enhancements. This cutting-edge flash memory card is equipped with a SATA 6 Gb/s interface, providing exceptional performance with sequential access data transfer rates of up to 560 MB/s and 69,000 IOPS in 4KB random access. Its design incorporates a SATA-based 7-pin signal segment alongside a 17-pin interface for power and control functions.



Utilizing 3D NAND technology to offer expanded capacity of up to 320GB and boasting superior power efficiency compared to 2D NAND, SH25P-CFast ensures the reliability of applications even in harsh environments. It achieves this through the implementation of intelligent flash management algorithms, an LDPC (Low Density Parity Check) ECC engine, and SLC-liteX technology, extending SSD endurance with P/E cycles of up to 100,000 times and enhancing data reliability.

Featuring CorePower technology, SH25P-CFast 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. Additionally, SH25P-CFast is outfitted with a built-in thermal sensor to monitor SSD temperature via S.M.A.R.T commands, preventing overheating. For highly-intensive applications, End-to-End Data Protection ensures data integrity at multiple points along the data transfer path, enabling reliable delivery of data transfers.

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

With exceptional performance, trustable reliability, and enhanced data protection, SH25P-CFast 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.
- Device Sleep
- ATA Secure Erase
- TRIM
- SLC-liteX (P/E cycles: 100K)
- DataRAID
- SMART Read Refresh
- SATA Power Management

Specifications

Model	SH25P-CFast
Interface	SATA 3.2 (6Gb/s)
Connector	(7+17) pin female
Form Factor	CFast
NAND Flash Type	3D TLC
Capacity	40GB~320GB
External DRAM	N
Sustained Read Performance (MB/sec)	Up to 560
Sustained Write Performance (MB/sec)	Up to 505
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: 385 mA / Idle mode: 70 mA
Dimension (L x W x H)	42.80 x 36.45 x 3.60 mm
MTBF (hours)	>3,000,000

Mechanical Specification

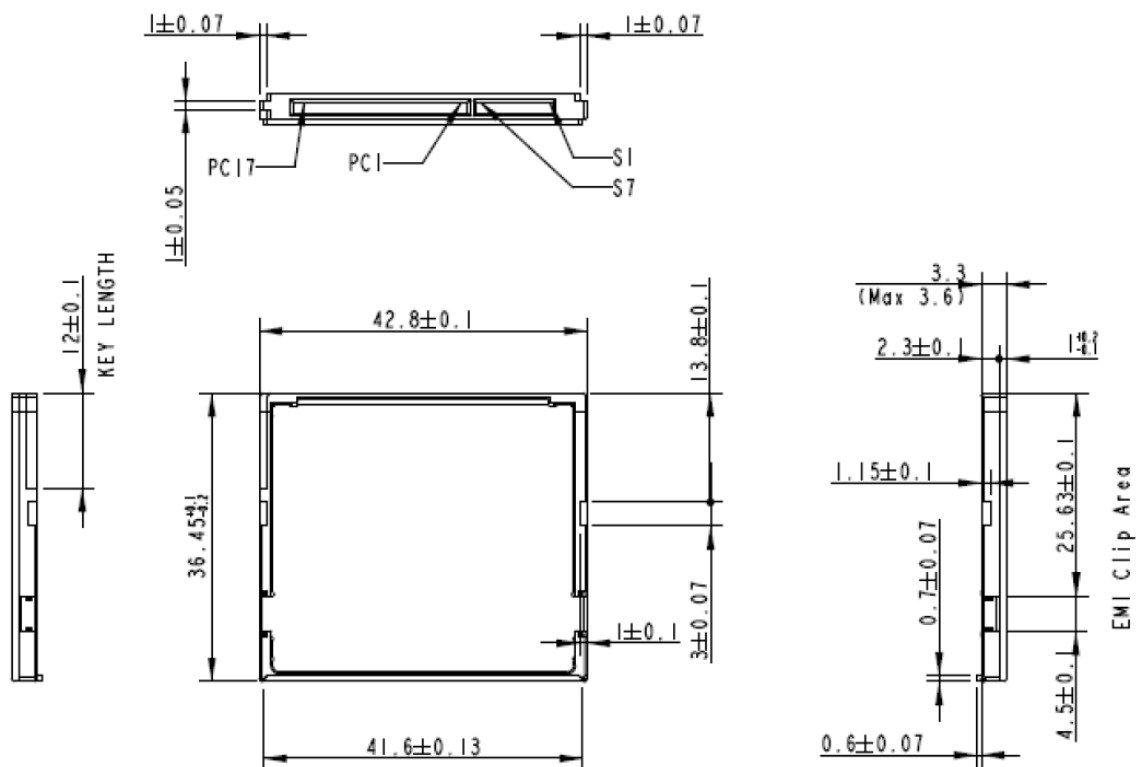


Figure 9-1 Physical Dimensions

Unit: mm

For more information,
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