

# Apacer

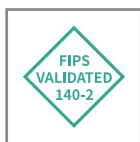


*Rugged  
Series*

## Rugged Systems for Mission-critical Applications

Delivering Reliability When Every Moment Counts

Built for rugged applications, these systems endure extreme conditions with resistance to temperature, altitude, and humidity, plus anti-vibration and shock protection, ensuring high reliability and performance in mission-critical scenarios.



### Enhanced Data Security

FIPS 140-2 certified cryptographic modules safeguard sensitive data, ensuring compliance with strict security standards.



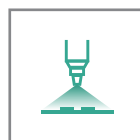
### Power Failure Protection

DataDefender™ detects abnormal power events, preventing data loss during outages or fluctuations.



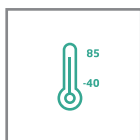
### Unmatched Corrosion Resistance

Patented anti-sulfuration memory and SSDs deliver industry-leading anti-corrosion protection for harsh environments.



### Improved Product Durability

Conformal coating protects devices from dust and liquids, enhancing reliability in challenging conditions.



### Reliable Extreme Temperature Performance

Wide temperature support (-40°C to 85°C) ensures stable operation in extreme climates.



### Strengthened Vibration Resistance

Sidefill technology reinforces solder joints for vibration resistance and improves heat dissipation to prevent damage.



Product Specification



Model Name	PV25D-M280*	SV240-25 FIPS 140-2	SH24D-M280	SH24D-25
Form Factor	M.2 2280	2.5"	M.2 2280	2.5"
Interface	PCIe Gen4 x4	SATA 3.2 (6Gb/s)	SATA 3.2 (6Gb/s)	SATA 3.2 (6Gb/s)
NAND Flash Type	3D TLC	3D TLC	3D TLC (SLC-liteX)	3D TLC (SLC-liteX)
Capacity	120GB~1920GB	240GB~1920GB	160GB~640GB	160GB~640GB
Max. Sequential R/W (MB/sec.)	3675/3020	560/500	560/500	560/500
Max. Random R/W (IOPS)	560K/559K	95K/80K	95K/84K	95K/84K
External DRAM Buffer	No	Yes	Yes	Yes
Operating Temperature (°C )	WT: -40°C ~ 85°C	WT: -40°C ~ 85°C	WT: -40°C ~ 85°C	WT: -40°C ~ 85°C
R-SATA Connector Support (Optional)	No	Yes	No	Yes

\*The estimated CS schedule is the end of November 2025.

Product Specification



Model Name	DDR4 XR-DIMM	DDR4 Rugged SODIMM	DDR5 Wide Temperature SODIMM	DDR5 Anti-sulfuration SODIMM
Module Type	XR-DIMM	Rugged SODIMM	Wide Temperature SODIMM	Anti-sulfuration SODIMM
Memory Technology	DDR4	DDR4	DDR5	DDR5
Speed	2133/2400	2133/2400/2666/ 2933/3200	4800/5600	4800/5600
Density	8GB/16GB	8GB/16GB/32GB	8GB/16GB/32GB	8GB/16GB/ 32GB/48GB
Voltage	1.2v	1.2v	1.1v	1.1v
Pin Count	300-Pin	260-Pin	262-Pin	262-Pin
Width	64-Bit / 72-Bit	64-Bit / 72-Bit	64-Bit	64-Bit
PCB Height	1.466"	1.377"	1.18"	1.18"
Operating Temperature (°C )	TC: 0°C ~ 85°C / -40°C ~ 85°C	TC: 0°C ~ 85°C / -40°C ~ 85°C	TC: -40°C ~ 85°C	TC: 0°C ~ 85°C
Fully Lead-free Resistor	No	No	Yes	Yes