

Industrial SSD & DRAM Solutions for Transportation Applications



As autonomous driving, smart cars and the Internet of Vehicles (IoV) are expected to become early adopters of 5G technology, the application requirements for in-vehicle and transportation data storage will naturally change as a result. From navigation systems, In-Vehicle Infotainment (IVI) and Advanced Driver Assistance Systems (ADAS) to surveillance and intelligent transportation systems outdoors, industrial SSDs and memory modules are increasingly tasked with reliably reading and writing data.

Featured Technologies for Transportation Devices



Anti-Sulfuration

Apacer's world's first patented anti-sulfuration DRAM modules and anti-sulfuration SSDs with the industry's highest level of anti-corrosion ANSI/ISA 71.04 G3 Certification can meet the needs of industrial products facing harsh environments.



SLC-liteX

Apacer's 3D NAND SLC-liteX technology breaks through the limitations of existing technology and provides up to 100,000 P/E cycles, which is 33 times more than MLC or industrial 3D TLC.



Power Stability

- CorePower
- DataDefender™



Longevity

- Over-provisioning
- SLC-liteX
- Fixed BOM
- 6+6 PCN/EOL Policy



Survivability

- Anti-Sulfuration
- Sidefill
- Conformal Coating
- Wide Temperature
- Nano Coating (IP57)
- 30μ Gold Finger



Value-added Applications

- Double-barreled Solution
- CoreAnalyzer2
- SSDWidget 2.0

Recommended Industrial SSD Solutions

Model	PV220-M280	SV250-M280	SV24P-M280	SV24P-25	PH920-M280	SH250-25	CH120-MSD
Features	Anti-Sulfuration		CorePower		SLC-liteX		
Form Factor	M.2 2280	M.2 2280	M.2 2280	2.5"	M.2 2280	2.5"	microSD
Interface	PCIe Gen3 x4	SATA 3.2 (6Gb/s)	SATA 3.2 (6Gb/s)	SATA 3.2 (6Gb/s)	PCIe Gen3 x4	SATA 3.2 (6Gb/s)	SD 6.1
Connector	M.2 M Key	M.2 B & M key	M.2 B & M key	(7+15) pin	M.2 M Key	(7+15) pin	-
NAND Flash Type	3D TLC						
Capacity	120~1920 GB	120~1920 GB	240~1920 GB	240~1920 GB	160~640 GB	40~640 GB	16~128 GB
External DRAM	No	No	Yes	Yes	No	No	-
Max. R/W Performance (MB/sec)	2390/2205	560/470	560/510	560/510	3530/2735	550/495	90/80
Standard Operating Temp. (°C)	0 ~ + 70	0 ~ + 70	0 ~ + 70	0 ~ + 70	0 ~ + 70	0 ~ + 70	- 25 ~ + 85
Wide Temp. (°C)	- 40 ~ + 85	- 40 ~ + 85	- 40 ~ + 85	- 40 ~ + 85	- 40 ~ + 85	- 40 ~ + 85	- 40 ~ + 85
MTBF (Hours)	>3,000,000	>3,000,000	>3,000,000	>3,000,000	>3,000,000	>3,000,000	>3,000,000
Recommended Applications	Crane Truck, Excavator, Vehicles in Harsh Environments			Server	Passenger Information System, Surveillance		Navigation

Recommended Industrial DRAM Solutions

Anti-Sulfuration Memory Modules

Module Type	Anti-Sulfuration UDIMM	Anti-Sulfuration SODIMM	Anti-Sulfuration RDIMM	Anti-Sulfuration ECC UDIMM	Anti-Sulfuration ECC SODIMM
Memory Technology	DDR5				
Frequency	4800/5600	4800/5600	4800	4800/5600	4800/5600
Density	8GB/16GB/32GB	8GB/16GB/32GB	16GB/32GB	16GB/32GB	16GB/32GB
Voltage	1.1v	1.1v	1.1v	1.1v	1.1v
Pin Count	288-Pin	262-Pin	288-Pin	288-Pin	262-Pin
Width	64-Bit	64-Bit	80-Bit	72-Bit	72-Bit
PCB Height	1.23"	1.18"	1.23"	1.23"	1.18"
Operation Temperature (°C)	TC = 0 ~ + 85	TC = 0 ~ + 85	TC = 0 ~ + 85	TC = 0 ~ + 85	TC = 0 ~ + 85
Value-added Technology					

Rugged Memory Modules & VLP (Very Low Profile) Memory Modules

Module Type	XR-DIMM	Rugged SODIMM	VLP UDIMM	VLP SODIMM	VLP RDIMM	VLP ECC UDIMM	VLP ECC SODIMM
Memory Technology	DDR4						
Frequency	2133/2400	2133/2400/2666/2933/3200	2133/2400/2666/2933/3200				
Density	8GB/16GB	8GB/16GB/32GB	4GB/8GB/16GB/32GB	4GB/8GB	4GB/8GB/16GB/32GB	4GB/8GB/16GB/32GB	4GB/8GB
Voltage	1.2v	1.2v	1.2v	1.2v	1.2v	1.2v	1.2v
Pin Count	300-Pin	260-Pin	288-Pin	260-Pin	288-Pin	288-Pin	260-Pin
Width	64-Bit / 72-Bit	64-Bit / 72-Bit	64-Bit	64-Bit	72-Bit	72-Bit	72-Bit
PCB Height	1.466"	1.377"	0.738"	0.709"	0.738"	0.738"	0.7"
Operation Temperature (°C)	TC = - 40 ~ + 85	TC = 0 ~ + 85 / - 40 ~ + 85	TC = 0 ~ + 85	TC = 0 ~ + 85	TC = 0 ~ + 85	TC = 0 ~ + 85	TC = 0 ~ + 85
Value-added Technology							