

Industrial SSD & DRAM Solutions for Defense Applications



Defense applications are doubtlessly mission-critical operations, requiring hence the most demanding, reliable and robust systems. Without protective technologies, defense applications can't survive hostile environments where temperature, altitude and humidity conditions are punishing. Moreover, anti-vibration and shock resistance are vital system requirements too.

Featured Technologies for Defense applications



FIPS 140-2 Level 2



FIPS, which stands for Federal Information Processing Standard, is a computer security standard that was created by the US government. It accredits the design of cryptographic modules and the implementations of these modules.



R-SATA connector

An R-SATA connector is designed to be tougher and more resilient than a standard SATA connector – the R stands for Ruggedized. It supports the SATA 3.0 protocol, mating cycles up to 5,000.



Security

- AES Encryption
- ATA Secure Erase
- CoreEraser
- CoreDestroyer
- TCG Opal 2.0
- Write Protect
- Instant Keychange
- FIPS 140-2 Level 2



Reliability

- DataDefender™
- Thermal Throttling
- 30μ Gold Finger



Extreme Environments

- Anti-Sulfuration
- Conformal Coating
- Wide Temperature
- Sidefill



Value-added Applications

- SSDWidget 2.0

Recommended Industrial SSD Solutions

Model Name	PV22D-M280	SH24D-25	SH24D-M280	SH24D-300	SV24D-25	SV24D-M280	SV24D-300
Interface	PCIe Gen3 x4	SATA 3.2 (6Gb/s)	SATA 3.2 (6Gb/s)	SATA 3.2 (6Gb/s)	SATA 3.2 (6Gb/s)	SATA 3.2 (6Gb/s)	SATA 3.2 (6Gb/s)
Capacity	•M.2 2280 Single side, M key: 120 GB •M.2 2280 Double side, M key: 240/480/960/1920 GB	160GB~640GB	160GB~640GB	160GB~640GB	120GB~1920GB	120GB~1920GB	120GB~1920GB
Connector	M.2 M Key	(7+15) pin	M.2 B & M key	52-pin	(7+15) pin	M.2 B & M key	52-pin
NAND Flash Type	3D TLC	3D TLC	3D TLC (w/3D NAND SLC-liteX for 100,000 P/E Cycles)	3D TLC	3D TLC	3D TLC	3D TLC
External DRAM	No	Yes	Yes	Yes	Yes	Yes	Yes
R/W Speed (MB/sec)	2390 / 2200	560 / 500	560 / 500	560 / 500	560 / 500	560 / 500	560 / 500
IOPS (4K Random Write)	311K	84K	84K	84K	84K	84K	84K
Wide Temp. (-40°C~85°C)	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Storage Temp. (°C)	-55 ~ + 100	-55 ~ + 100	-55 ~ + 100	-55 ~ + 100	-55 ~ + 100	-55 ~ + 100	-55 ~ + 100
MTBF (hours)	>5,000,000	>5,000,000	>5,000,000	>5,000,000	>5,000,000	>5,000,000	>5,000,000
Value-added Technologies (Optional)	MIL Erase TCG Opal2.0/SED Instant Keychange™ Digital Destruction Conformal Coating Sidefill 30u Gold Finger	•MIL Erase •TCG Opal2.0 / SED •Instant Keychange™ •Digital Destruction •Physical Destruction* •Thermal Throttling •Conformal Coating •Sidefill •30u Gold Finger				•MIL Erase •TCG Opal2.0 / SED •Instant Keychange™ •Thermal Throttling •Digital Destruction •Physical Destruction •Conformal Coating •Sidefill •30u Gold Finger	
R-SATA connector support (Optional)	No	Yes	No	No	Yes	No	No

Model Name	SV24D-25 FIPS140-2	SV24D-M280 FIPS140-2	SV24D-300 FIPS140-2	SV24D-297 FIPS140-2
Interface	SATA 3.2 (6Gb/s)	SATA 3.2 (6Gb/s)	SATA 3.2 (6Gb/s)	SATA 3.2 (6Gb/s)
Capacity	240GB~1920GB	240GB~1920GB	240GB~1920GB	240GB~960GB
Connector	(7+15) pin	M.2 B & M key	52-pin mSATA	(7+15) Pin
NAND Flash Type	3D TLC	3D TLC	3D TLC	3D TLC
External DRAM	Yes	Yes	Yes	Yes
R/W Speed (MB/sec)	560/500	560/500	560/500	560/500
IOPS (4K Random Write)	84K	84K	84K	84K
Wide Temp. (-40°C~85°C)	Yes	Yes	Yes	Yes
MTBF (hours)	>3,000,000	>3,000,000	>3,000,000	>3,000,000
Featured Technology		•FIPS 140-2 Validated •Supports TCG Opal 2.0 / AES 256-bit Encryption •Wide Temperature •SMART Read Refresh™ •S.M.A.R.T. Function		
R-SATA connector support (Optional)	Yes	No	No	No

Recommended Industrial DRAM Solutions

Module Type	Rugged Memory Modules XR-DIMM	Rugged Memory Modules Rugged SODIMM	Wide Temperature Memory Modules SODIMM	Anti-Sulfuration Memory Modules SODIMM
Memory Technology	DDR4	DDR4	DDR5	DDR5
Frequency	2133/2400	2133/2400/2666/2933/3200	4800/5600	4800/5600
Density	8GB/16GB	8GB/16GB/32GB	8GB/16GB/32GB	8GB/16GB/32GB
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 ~ + 85 / - 40 ~ + 85	TC = 0 ~ + 85 / - 40 ~ + 85	TC = -40 ~ + 85	TC = 0 ~ + 85
Value-added Technology				