

Industrial Rugged PCIe SSD PV22D-M280 Defense Model

A complete Solution for Secure Data Protection and Extreme Environments.



PV22D-M280 Defense Model

Product Features

- AES 256-bit Hardware Encryption
- Low-Density Parity-Check (LDPC) Code
- Global Wear Leveling
- DataRAID™
- DataDefender™
- SMART Read Refresh™

Security Features (optional)

- TCG Opal 2.0¹/Self Encrypting Drives (SEDs)
- Instant Keychange
- MIL Erase²
- Digital Destruction
- Write Protect

Implementation Methods (optional)

- Software command
- Hardware
 - Connector pin
 - Slide switch

MIL-STD Environmental Test

Item	Test Methods
Shock	MIL-STD-202G, Condition A
	MIL-STD-883K, Condition B
Vibration	MIL-STD-810G, Method 514.6, Procedure I, Category 24
	MIL-STD-810G, Method 514.6, Procedure I, Category 7
Humidity	MIL-STD-810G, Method 507.5, Procedure II
High Temp.	MIL-STD-810G, Method 501.5, Procedure II
Low Temp.	MIL-STD-810G, Method 502.5, Method 501.5, Procedure II
Thermal Shock	MIL-STD-810G, Method 503.5, Procedure I-C
Altitude	MIL-STD-810G, Method 500.5, Procedure I
Salt Fog	MIL-STD-810G, Method 509.5, Procedure I
Radiation Test	MIL-STD-810G, Method 505.5, procedure II

SPECIFICATIONS

- Compliant with PCIe Express 3.1
- Compliant with NVMe 1.3
- Compatible with PCIe Gen3 x4 interface

Configuration

Capacity	• Single side: 120GB
	• Double side: 240, 480, 960, 1920GB

NAND Flash Type	3D TLC (BiCS3)
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Performance

Sequential Read/Write (Max.)	1,710/1,685 MB/s
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4K Random Read/Write (Max.)	221,000/266,000 IOPS
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Reliability

Endurance (Drive Writes Per Day: DWPD ³)(Max.)	Up to 2.81 DWPD at 1920GB
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MTBF	>5,000,000 hours
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Features (optional)

- Thermal Throttling
- Conformal Coating
- Nano Coating
- Sidefill
- 30μ Gold Finger
- Wide Temperature

Environment

Operating Temperature	• Standard: 0°C to 70°C
	• Wide: -40°C to 85°C

Storage Temperature	-55°C to 100°C
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Power Requirement

Supply Voltage	3.3 V ± 5%
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Power Consumption⁴

Low Power PS4 (L1.2)	< 5.5 mW
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Read (mA)	1,400 (rms)
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Write (mA)	1,300 (rms)
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Idle (mA)	250 (rms)
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Peak (mA)	625 (rms)
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Physcial Characteristics

Form Factor	M.2 2280-D5-M Key
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Dimensions (mm)	• Single side: 22.00 x 80.00 x 2.58
	• Double side: 22.00 x 80.00 x 4.08

1. TCG Opal 2.0 can only be triggered via software commands and cannot be implemented together with any of the other Security features.

2. Includes NSA9-12, DoD 5220.22-M, NSA Manual 130-2, USA-AF AFSSI 5020, USA-Army 380-19, USA Navy NAVSO P-5239-26, NISPOMSUP Chap 8, Sect. 8-501 and IREC (IRIG) 106.

3. DWPD (Drive Write Per Day) is calculated based on the number of times that user overwrites the entire capacity of an SSD per day of its lifetime during the warranty period.

4. The RMS value is measured with IOMeter 1GB Seq. Read/Write QD32/T1.