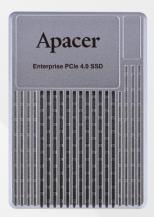
The Most **Reliable** Storage For Industries

PV19E-25M U.3







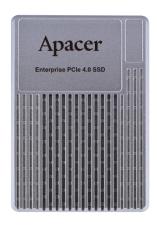


Apacer

PV19E-25M U.3

Overview

Apacer PV19E-25M U.3 Solid State Disk (SSD) delivers all the advantages of flash disk technology with PCIe Gen4 x4 interface, including being fully compliant with standard U.3 form factor, providing low power consumption compared to traditional hard drive and hot-swapping when removing/replacing/upgrading flash disks. PV19E-25M offers a wide range of capacities up to 30,720 GB and delivers outstanding performance up to 7,460 MB/s (for sequential read) and 7,100 MB/s (for sequential write) based on eTLC NAND flash with the DDR4. Moreover, the power consumption of U.3 (15mm) SSD is much lower than traditional hard drives, making it the best embedded solution for new platforms.



Apacer

Feature

- Enterprise SSD PV19E-25M
- Core Power
- QoS 99.9%
- Warrany 5 years
- DWPD>1
- Low-Density Parity-Check (LDPC) Code
- Global Wear Leveling
- Flash bad-block management
- Flash Translation Layer: Page Mapping
- S.M.A.R.T.
- TRIM
- Over-provisioning
- SMART Read RefreshTM
- NVMe Secure Erase
- Namespace

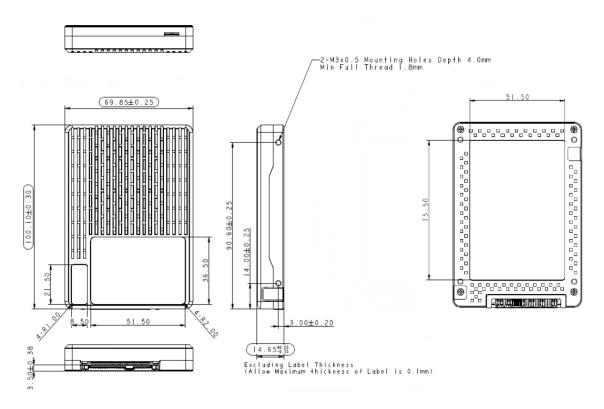
Apacer

Specifications

Interface	Model	PV19E-25M
Connector U.3 (SFF-TA-1001) Form Factor U.3 15mm NAND Flash Type 3D ETLC Capacity 1920GB~30720GB External DRAM Yes SequentialRead Performance (MB/sec) Up to 7000 Sequential Write Performance (MB/sec) Up to 6600 Sustained Read Performance (MB/sec) Up to 3800 ECC Engine Low-Density Parity-Check (LDPC) Code LOPs (4K Random Write) 190K Random R/W latency 0/15 µs Random R/W QoS 0.10/0.02 ms Standard Operating Temperature (*C) 0 ~ + 70 Storage Temperature (*C) -55 ~ + 100 Thermal sensor Yes Operation: Acceleration, 50(G)/11(ms)/half sine (compliant with MIL-STD-820G) Non-operation: Acceleration, 1,500(G)/0.5(ms)/half sine (compliant with MIL-STD-830G) Non-operation: Acceleration: Acceleration, 1,500(G)/0.5(ms)/half sine (compliant with MIL-STD-810G) Vibration 0peration: Acceleration, 2,0~2000 Hz/random (compliant with MIL-STD-810G) Non-operation: 4.02 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 12V ± 10% Win Server 2019 <tr< th=""><th></th><th></th></tr<>		
Form Factor		
NAND Flash Type 3D eTLC Capacity 1920GB~30720GB External DRAM Yes SequentialRead Performance (MB/sec) Up to 7000 Sequential Write Performance (MB/sec) Up to 6800 Sustained Read Performance (MB/sec) Up to 3800 Sustained Write Performance (MB/sec) Up to 3800 ECC Engine Low-Density Parity-Check (LDPC) Code IOPs (4K Random Write) 190K Random R/W latency 0/15 μs Random R/W QoS 0.10/0.02 ms Standard Operating 0 ~ + 70 Temperature (°C) -55 ~ + 100 Thermal sensor Yes Operation: Acceleration, 50(G)/11(ms)/half sine (compliant with MIL-STD-202G) Non-operation: Acceleration, ±Cool(g)/0.5(ms)/half sine (compliant with MIL-STD-833K) Operation: Acceleration, ±Cool(g)/0.5(ms)/half sine (compliant with MIL-STD-810G) Vibration Operation: Acceleration, ±Cool(g)/0.5(ms)/half sine (compliant with MIL-STD-810G) Vibration 100 -		•
Capacity 1920GB~30720GB External DRAM Yes SequentialRead Performance (MB/sec) Sequential Write Performance (MB/sec) Sustained Read Performance (MB/sec) Sustained Write Performance (MB/sec) Sustained Write Performance (MB/sec) Sustained Write Performance (MB/sec) Sustained Write Performance (MB/sec) ECC Engine Low-Density Parity-Check (LDPC) Code IOPs (4K Random Write) 190K Random R/W Iatency 0/15 µs Random R/W QoS 0.10/0.02 ms Standard Operating Temperature (*C) Storage Temperature (*C) Thermal sensor Yes Operation: Acceleration, 50(G)/11(ms)/half sine (compliant with MIL-STD-202G) Non-operation: Acceleration, 1,500(G)/0.5(ms)/half sine (compliant with MIL-STD-883K) Operation: Acceleration, 4.02 Grms, 15~2000 Hz/random (compliant with MIL-STD-810G) Non-operation: Acceleration, 4.02 Grms, 15~2000 Hz/random (compliant with MIL-STD-810G) Non-operation: Acceleration, 4.02 Grms, 15~2000 Hz/random (compliant with MIL-STD-810G) Non-operation: Acceleration, 4.02 Grms, 15~2000 Hz/random (compliant with MIL-STD-810G) Non-operation: Acceleration, 4.02 Grms, 15~2000 Hz/random (compliant with MIL-STD-810G) Non-operation: Acceleration, 4.02 Grms, 15~2000 Hz/random (compliant with MIL-STD-810G) Non-operation: Acceleration, 4.02 Grms, 15~2000 Hz/random (compliant with MIL-STD-810G) Non-operation: Acceleration, 50(G)/11(ms)/half sine (compliant with MIL-STD-810G) Non		
External DRAM SequentialRead Performance (MB/sec) Sequential Write Performance (MB/sec) Sustained Read Performance (MB/sec) Sustained Write Performance (MB/sec) Sustained Write Performance (MB/sec) Sustained Write Performance (MB/sec) ECC Engine		
SequentialRead Performance (MB/sec) Up to 7000 Sequential Write Performance (MB/sec) Up to 6800 Sustained Read Performance (MB/sec) Up to 3800 Sustained Write Performance (MB/sec) Up to 3800 ECC Engine Low-Density Parity-Check (LDPC) Code IOPs (4K Random Write) 190K Random R/W latency 0/15 μs Random R/W QoS 0.10/0.02 ms Standard Operating Temperature (°C) 0 ~ + 70 Thermal sensor Yes Operation: Acceleration, 50(G)/11(ms)/half sine (compliant with MIL-STD-202G) Non-operation: Acceleration, 1,500(G)/0.5(ms)/half sine (compliant with MIL-STD-83K) Vibration Operation: 7.69 Grms, 20~2000 Hz/random (compliant with MIL-STD-810G) Non-operation: A.02 Grms, 15~2000 Hz/random (compliant with MIL-STD-810G) Operating Voltage 12V ± 10% WHQL certified Win Server 2019 Power Consumption Active mode: 20.8 W/Idle mode: 7.43 W Inrush current 1.5A Dimension (L x W x H) 100.10 x 69.85 x 14.65, unit: mm		
Sequential Write Performance (MB/sec) Sustained Read Performance (MB/sec) Sustained Write Performance (MB/sec) Sustained Write Performance (MB/sec) ECC Engine	SequentialRead Performance	
KMB/sec) Up to 6600 Sustained Read Performance (MB/sec) Up to 3800 Sustained Write Performance (MB/sec) Up to 3800 ECC Engine Low-Density Parity-Check (LDPC) Code IOPs (4K Random Write) 190K Random R/W latency 0/15 μs Random R/W QoS 0.10/0.02 ms Standard Operating Temperature (°C) 0 ~ + 70 Thermal sensor Yes Operation: Acceleration, 50(G)/11(ms)/half sine (compliant with MIL-STD-202G) Non-operation: Acceleration, 1,50(G)/0.5(ms)/half sine (compliant with MIL-STD-83K) Vibration Operation: 7.69 Grms, 20~2000 Hz/random (compliant with MIL-STD-810G) Vibration Non-operation: 4.02 Grms, 15~2000 Hz/random (compliant with MIL-STD-810G) Operating Voltage 12V ± 10% WHQL certified Win Server 2019 Power Consumption Active mode: 20.8 W/Idle mode: 7.43 W Inrush current 1.5A Dimension (L x W x H) 100.10 x 69.85 x 14.65, unit: mm	(MB/sec)	·
Sustained Write Performance (MB/sec) ECC Engine Low-Density Parity-Check (LDPC) Code IOPs (4K Random Write) Random R/W latency Random R/W QoS Standard Operating Temperature (°C) Thermal sensor Shock Operation: Acceleration, 50(G)/11(ms)/half sine (compliant with MIL-STD-202G) Non-operation: Acceleration,1,500(G)/0.5(ms)/half sine (compliant with MIL-STD-883K) 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 12V ± 10% WHQL certified Win Server 2019 Power Consumption Active mode: 20.8 W/Idle mode: 7.43 W Inrush current 1.5A Dimension (L x W x H) 100.10 x 69.85 x 14.65, unit: mm	-	Up to 6800
CMB/sec CC Engine Low-Density Parity-Check (LDPC) Code IOPS (4K Random Write) 190K Random R/W latency 0/15 μs Random R/W QoS 0.10/0.02 ms Standard Operating Temperature (°C) -55 ~ + 100 Thermal sensor Yes Operation: Acceleration, 50(G)/11(ms)/half sine (compliant with MIL-STD-202G) Non-operation: Acceleration, 1,500(G)/0.5(ms)/half sine (compliant with MIL-STD-883K) Operation: Acceleration (compliant with MIL-STD-883K) Operation: Acceleration (compliant with MIL-STD-810G) Non-operation: 4.02 Grms, 15~2000 Hz/random (compliant with MIL-STD-810G) Operating Voltage 12V ± 10% WHQL certified Win Server 2019 Power Consumption Active mode: 20.8 W/Idle mode: 7.43 W Inrush current 1.5A Dimension (L x W x H) 100.10 x 69.85 x 14.65, unit: mm		Up to 6600
IOPs (4K Random Write) Random R/W latency Random R/W QoS Standard Operating Temperature (°C) Storage Temperature (°C) Thermal sensor Shock Vibration 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) Non-operation: 4.02 Grms, 15~2000 Hz/random (compliant with MIL-STD-810G) Non-operation: 4.02 Grms, 20~2000 Hz/random (compliant with MIL-STD-810G) Non-operation: 4.02 Grms, 15~2000 Hz/random (compliant with MIL-STD-810G) Non-operation: 4.02 Grms, 15~2000 Hz/random (compliant with MIL-STD-810G) Non-operation: 4.02 Grms, 15~2000 Hz/random (compliant with MIL-STD-810G) Active mode: 20.8 W/Idle mode: 7.43 W Inrush current 1.5A Dimension (L x W x H) 100.10 x 69.85 x 14.65, unit: mm		Up to 3800
Random R/W latency Random R/W QoS Standard Operating Temperature (°C) Storage Temperature (°C) Thermal sensor Shock Operation: Acceleration, 50(G)/11(ms)/half sine (compliant with MIL-STD-202G) Non-operation: Acceleration,1,500(G)/0.5(ms)/half sine (compliant with MIL-STD-810G) Non-operation: Acceleration,1,500 GPMS, 20~2000 Hz/random (compliant with MIL-STD-810G) Non-operation: Acceleration,1,500 GPMS, 20~2000 Hz/random (compliant with MIL-STD-810G) Non-operation: Acceleration,1,500 GPMS, 20~2000 Hz/random (compliant with MIL-STD-810G) Non-operation: Acceleration, Accelerat	ECC Engine	Low-Density Parity-Check (LDPC) Code
Random R/W QoS Standard Operating Temperature (°C) Storage Temperature (°C) Thermal sensor Operation: Acceleration, 50(G)/11(ms)/half sine (compliant with MIL-STD-202G) Non-operation: Acceleration,1,500(G)/0.5(ms)/half sine (compliant with MIL-STD-883K) 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 12V ± 10% WHQL certified Win Server 2019 Power Consumption Active mode: 20.8 W/Idle mode: 7.43 W Inrush current 1.5A Dimension (L x W x H) 100.10 x 69.85 x 14.65, unit: mm	IOPs (4K Random Write)	190К
Standard Operating Temperature (°C) Storage Temperature (°C) Thermal sensor Shock Operation: Acceleration, 50(G)/11(ms)/half sine (compliant with MIL-STD-202G) Non-operation: Acceleration,1,500(G)/0.5(ms)/half sine (compliant with MIL-STD-883K) 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 12V ± 10% WHQL certified Win Server 2019 Power Consumption Active mode: 20.8 W/Idle mode: 7.43 W Inrush current 1.5A Dimension (L x W x H) 100.10 x 69.85 x 14.65, unit: mm	Random R/W latency	0/15 μs
Temperature (°C) Storage Temperature (°C) Thermal sensor Yes Operation: Acceleration, 50(G)/11(ms)/half sine (compliant with MIL-STD-202G) Non-operation: Acceleration,1,500(G)/0.5(ms)/half sine (compliant with MIL-STD-883K) 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 12V ± 10% WHQL certified Win Server 2019 Power Consumption Active mode: 20.8 W/Idle mode: 7.43 W Inrush current 1.5A Dimension (L x W x H) 100.10 x 69.85 x 14.65, unit: mm	Random R/W QoS	0.10/0.02 ms
Thermal sensor Yes Operation: Acceleration, 50(G)/11(ms)/half sine (compliant with MIL-STD-202G) Non-operation: Acceleration,1,500(G)/0.5(ms)/half sine (compliant with MIL-STD-883K) 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 12V ± 10% WHQL certified Win Server 2019 Power Consumption Active mode: 20.8 W/Idle mode: 7.43 W Inrush current 1.5A Dimension (L x W x H) 100.10 x 69.85 x 14.65, unit: mm		0~+70
Shock Operation: Acceleration, 50(G)/11(ms)/half sine (compliant with MIL-STD-202G) Non-operation: Acceleration,1,500(G)/0.5(ms)/half sine (compliant with MIL-STD-883K) 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 12V ± 10% WHQL certified Win Server 2019 Power Consumption Active mode: 20.8 W/Idle mode: 7.43 W Inrush current 1.5A Dimension (L x W x H) Operation: Acceleration, 50(G)/11(ms)/half sine (compliant with MIL-STD-883K) Operation: Acceleration, 50(G)/12(ms)/half sine (compliant with MIL-STD-810G) Acceleration, 50(G)/0.5(ms)/half sine (compliant with MIL-STD-810G) Operation: Acceleration, 50(G)/0.5(ms)/half sine (compliant with MIL-STD-810G) Non-operation: 4.02 Grms, 15~2000 Hz/random (compliant with MIL-STD-810G) Non-operation: 4.02 Grms, 15~2000 Hz/random (compliant with MIL-STD-810G) Acceleration, 50(G)/0.5(ms)/half sine (compliant with MIL-STD-810G) Non-operation: 4.02 Grms, 15~2000 Hz/random (compliant with MIL-STD-810G) Acceleration, 4.02 Grms, 15~2000 Hz/random (compliant with MIL-STD-810G) Acceleration: 4.02 Grms, 15~2000 Hz/random (compliant with MIL-STD-810G) Operation: 4.02 Grms, 15~2000 Hz/random (compliant with MIL-STD-810G) Acceleration: 4.02 Grms, 15~2000 Hz/random (compliant with MIL-STD-810G)	Storage Temperature (°C)	-55 ~ + 100
Shock(compliant with MIL-STD-202G) Non-operation: Acceleration, 1,500(G)/0.5(ms)/half sine (compliant with MIL-STD-883K)VibrationOperation: 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 Voltage12V ± 10%WHQL certifiedWin Server 2019Power ConsumptionActive mode: 20.8 W/Idle mode: 7.43 WInrush current1.5ADimension (L x W x H)100.10 x 69.85 x 14.65, unit: mm	Thermal sensor	Yes
Vibration(compliant with MIL-STD-810G) Non-operation: 4.02 Grms, 15~2000 Hz/random (compliant with MIL-STD-810G)Operating Voltage12V ± 10%WHQL certifiedWin Server 2019Power ConsumptionActive mode: 20.8 W/Idle mode: 7.43 WInrush current1.5ADimension (L x W x H)100.10 x 69.85 x 14.65, unit: mm	Shock	(compliant with MIL-STD-202G) Non-operation: Acceleration,1,500(G)/0.5(ms)/half sine
WHQL certified Power Consumption Active mode: 20.8 W/Idle mode: 7.43 W Inrush current 1.5A Dimension (L x W x H) 100.10 x 69.85 x 14.65,unit: mm	Vibration	(compliant with MIL-STD-810G) Non-operation:4.02 Grms, 15~2000 Hz/random
Power ConsumptionActive mode: 20.8 W/Idle mode: 7.43 WInrush current1.5ADimension (L x W x H)100.10 x 69.85 x 14.65,unit: mm	Operating Voltage	12V ± 10%
Inrush current 1.5A Dimension (L x W x H) 100.10 x 69.85 x 14.65,unit: mm	WHQL certified	Win Server 2019
Dimension (L x W x H) 100.10 x 69.85 x 14.65,unit: mm	Power Consumption	Active mode: 20.8 W/Idle mode: 7.43 W
	Inrush current	1.5A
MTBF (hours) >3,000,000	Dimension (L x W x H)	100.10 x 69.85 x 14.65,unit: mm
	MTBF (hours)	>3,000,000



Mechanical Specification



Unit: mm

For more information, contact your Apacer representative

Global Presence

Taiwan (Headquarters) Apacer Technology Inc. Tel: +886-2-2267-8000 Fax: +886-2-2267-2261

Apacer Technology B.V. Tel: +31-40-267-0000 Fax: +31-40-290-0686 U.S.A.
Apacer Memory America, Inc.

Tel: +1-408-518-8699 Fax: 1-510-249-9551 China

Apacer Electronic(Shanghai) Co., Ltd.

Tel: +86-21-6228-9939

Japan

Apacer Technology Corp. Tel: +81-3-5419-2668 Fax: +81-3-5419-0018 Apacer Technologies Pvt. Ltd. Tel: +91-80-41529061~3 Fax: +91-80-41700215