



PBlaze5 700 Series PCIe NVMe™ SSD

Design for Data Center

PBlaze5 700 Series Highlights

- Most competitive cost advantage of 3D Enterprise TLC NAND
- Single disk or card capacity up to 11TB
- 1 Million IOPS, 6GB/s throughput
- Ultra-low latency and guaranteed QoS
- Hot-pluggable U.2 form factor available

Applications & Workloads

- Databases
- Cloud and Hyper-scale Computing
- High Performance Software-defined Storage
- Searching, Indexing, CDN
- Deep Learning Application and Big Data Analytics
- 3D Media Rendering



PBlaze5 HHHL AIC/SFF 2.5-inch
2TB, 3.6TB, 4TB, 8TB, and 11TB

The PBlaze5 700 Series uses Memblaze's unique and innovative firmware with independent intellectual property. With industry-leading 3D enterprise TLC NAND, PBlaze5 700 Series can meet the overall demands of Data Center with its large capacity, high performance and low cost advantages.

3D Enterprise TLC NAND

3D Enterprise NAND extends the Moore's law and provides a higher storage capacity in the same wafer area compared to 2D NAND. The 3D eTLC NAND provides a higher storage density compared to the 3D MLC NAND. The PBlaze5 700 Series SSD enables large scale deployments in the Data Center with lower cost 3D eTLC NAND.

Higher Density, Higher Capacity

The PBlaze5 700 series U.2 2.5-inch form-factor and AIC HHHL have 32 Flash Chips, delivering capacities up to 11TB, 3.4 times the previous-generation 3.2TB. High density helps save space and power for Data Center, and the large capacity is ready for high-speed data traffic.

High Performance

16 channels, 32 embedded cores. By offering 1Million IOPS and 6GB/s throughput on the HHHL add-in card (AIC), the PBlaze5 700 Series SSD solves IO bottleneck issue in system. This new standard in performance accelerates applications to new levels.

Ultra-low latency and High Quality of Service(QoS)

The PBlaze5 700 new MemSpeed 3.0 dynamic smoothing technology ensures consistent performance and meets Tier 1 Data Center service level agreements. The combination of high throughput performance and predictable low latency delivers extreme performance for Data Center applications.

Low cost

The PBlaze5 700 Series has the best capacity and price ratio and cost performance. For the system with the same storage performance and capacity, PBlaze5 700 series can help reduce the number of nodes, significantly reducing the cluster power consumption. At the same time, hot-pluggable U.2 form factor is available, which can effectively reduce the Data Center operation and maintenance complexity. By deploying the PBlaze5 700 Series NVMe SSD, the Data Center can build high-performance storage systems and solutions while minimizing TCO.

PBlaze5 700 Series PCIe NVMe™ SSD

Design for DataCenter

PBlaze5 700 Series Spec ^[1]	PBlaze5 D700					PBlaze5 C700				
Form Factor	2.5-inch U.2					HHHL AIC				
Interface	PCIe 3.0 x 4					PCIe 3.0 x 8				
User Capacity (TB)	2	3.6	4	8	11	2	3.6	4	8	11
Sequential Read (128KB)	Up to 3.2GB/s					Up to 6GB/s				
Sequential Write (128KB)	Up to 2.4GB/s					Up to 2.4GB/s				
Sustained Random Read (4KB) IOPS	Up to 760K					Up to 1042K				
Sustained Random Write (4KB) IOPS (Steady State) ^[2]	Up to 210K					Up to 210K				
Latency Read/Write ^[3]	90/15 μs									
Lifetime Endurance ^[4]	1 DWPD									
Uncorrectable Bit Error Rate	< 1 sector error per 10 ¹⁷ bits read									
Mean Time Between Failures	2.1 million hours									
Protocol	NVMe 1.2a									
NAND Flash Memory	3D eTLC NAND									
Operation System	RHEL, SLES, CentOS, Ubuntu, Windows Server, VMware ESXi									
Power Consumption	7 ~ 23w									
Feature Support	Power Failure Protection, Hot pluggable, AES 256 data encryption									
Software Support	CLI Management Tool, OS in-box driver									
Certification	America: FCC			Europe: CE, RoHS, WEEE			Taiwan: BSMI			

NOTES:

[1] Performance may vary due to different system configurations and firmware version.

[2] Measurement is performed at Steady State follow SNIA SSS-PTS-E test specification.

[3] Average latency measured with 4KB random I/O pattern.

[4] DWPD, Drive Write Per Day for 5 year, all lifetime evaluations are based on sequential workload and the Joint Electron Device Engineering Council, JEDEC218 with JESD219 workload.

For more information, please contact your Memblaze representative or visit www.memblaze.com

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