

PBLAZE III

Blaze Your Flash Experience



Overview

Memblaze products are ideally suited for the next generation of data centers. PBlaze3 Hardware Flash Accelerator is the latest product in the series and can fulfill the modern data center's urgent requirements in the area of IO performance. PBlaze3 is a revolutionary new product, boasting with the features of big capacity, high performance and high reliability, long life span and low latency, created for the scenarios in databases, virtualization, big data, HD videos and mobile internet.

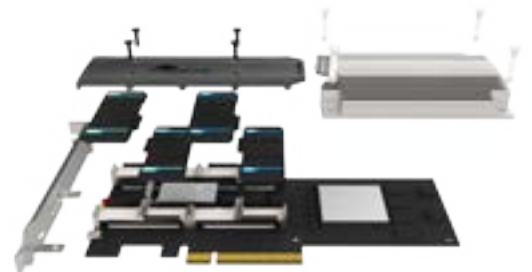
- PBlaze3L MLC — Half-height, half-length, high performance to cost ratio
- PBlaze3H MLC — Full-height, half-length, the highest performance product
- PBlaze3L SLC — Half-height, half-length, high endurance
- PBlaze3H SLC — Full-height, half-length, high endurance

Innovation

- Innovative architecture and advanced algorithm achieve up to 3.5 GB/s and 2.5 GB/s for read bandwidth and write bandwidth respectively, and up to 800,000 IOPS and 280,000 IOPS for random read and write.
- Wear leveling technology together with ultra-low latency and latency smoothing technique reduce product latency down to 14 μ s while maintaining ultra-low latency jitter.
- Unique Pianokey technology offers 38 storage capacities ranging from 600 GB to 2.4 TB of MLC Product for free selection, significantly reduces TCO and improves flexibility.
- End-to-end data protection technology (super-strong error correction, RAID cross NAND, back-up module, and randomization) guarantees MTBF (Mean Time Between Failures) of over 2 million hours.
- Flash memory life span extension technology enhances MLC flash memory write in life span more than threefold, reaching up to 33 PB.
- Device-based technology halves host CPU utilization rate, and reduces host memory usage to just 1 MB.

Applications

- Cloud Computing: Improved response and processing time for data center application, data processing and service, greatly improved customer experience.
- Virtualization: Hundredfold boost of single virtual machine IOPS performance, solved virtualization storage performance bottlenecks.
- Big Data: Accelerated collection, aggregation and analysis for mass volume of data; big data analysis results gained close to real-time with accelerated value transformation.
- Database: Improved search, inquiry and update response and processing performance, excellent solution of IO performance issues during highly concurrent read and write scenarios.
- CDN: Enhanced speed, response time and fluency of application downloading, webpage browsing, and video rendering from the cache nodes; practically latency-free user experience.



For more information, please visit the Memblaze websites at: www.memblaze.com

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Spec	Item	PBlaze3L MLC	PBlaze3H MLC	PBlaze3L SLC	PBlaze3H SLC
Capacity	Available Capacity	600 GB ~1200 GB ⁽¹⁾	1200 GB ~ 2400 GB ⁽¹⁾	300 GB ~ 600 GB ⁽²⁾	600 GB ~ 1200 GB ⁽²⁾
Performance	Read Bandwidth (64KB)	2.4 GB/s	3.2 GB/s	2.5 GB/s	3.5 GB/s
	Write Bandwidth (64KB)	1.1 GB/s	2.2 GB/s	1.3 GB/s	2.5 GB/s
	Random Read (4KB) IOPS	615,000	750,000	630,000	800,000
	Random Write (4KB) IOPS ⁽³⁾	130,000	260,000	155,000	280,000
	Random R&W (4KB 75:25 R:W) IOPS ⁽³⁾	500,000	600,000	550,000	650,000
Reliability	Typical R/W Access Latency (4KB)	80 μs/14 μs	80 μs/14 μs	60 μs/14 μs	60 μs/14 μs
	Enterprise Class Reliability	BERM<10 ⁻²⁰	BERM<10 ⁻²⁰	BERM<10 ⁻²⁰	BERM<10 ⁻²⁰
	Endurance of Lifetime	8 PB ~16 PB	16 PB ~ 33 PB	>50 PB	>100 PB
Hardware Spec	MTBF	2,000,000 hours			
	Form Factor	Half-height, half-length	Full-height, half-length	Half-height, half-length	Full-height, half-length
	Physical Size	Half-height, half-length: 68.90 mm (H)x167.65 mm (L)		Full-height, half-length: 111.15 mm (H)x167.65 mm (L)	
	Weight	190 g/350 g			
	Bus Interface	PCI Express 2.1 x 8			
Software Spec	Flash Type	NAND MLC(Multi Level Cell) NAND SLC (Single Level Cell)			
	Operating System	RHEL, SLES, CentOS, Windows, ESXi, KVM			
	File System	NTFS, FAT, FAT32, EXT2, EXT3, EXT4, XFS, VMFS			
Environment Spec	Management	CLI, GUI, Telnet, SSH			
	Operational Temperature	0 °C~50 °C Environment Spec			
	Non-operational Temperature	-40 °C~70 °C			
	Power Consumption	Half-height, half-length: 10 w~25 w		Full-height, half-length: 30 w~55 w	
Functional Features	Cooling Condition	>300 LFM@25 °C			
	Wear Leveling	Yes			
	Latency Smooth	Yes			
	Power Loss Protection	Yes(Polymer Capacitor, 18~20 ms of Retention Time)			
	RAID	Support Software Raid(0, 1, 5)			
AGENCY	Data Protection	Supper Error Correction, RAIDCross NAND, Backup Die, Randomizer			
	US	FCC Title 47, Part 15 Subpart B			
	Europe	EN 55022:2010	EN 61000-4-2:2009	EN 61000-4-3:2010	EN 61000-4-8:2010
		EN 61000-4-4:2004+A1:2010	EN 61000-4-6:2009	EN 61000-4-8:2010	

Notes:

- 38 capacities are available for MLC product, with the capacities ranging from 600 GB to 2.4 TB increased by 50 GB incrementally
- 38 capacities are available for SLC product, with the capacities ranging from 300 GB to 1.2 TB increased by 25 GB incrementally
- The performance data of random write and random access is obtained at the state of 80% span

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