



## NVMe for the Masses

From data center IT to performance in the cloud, your applications demand the fast, low latency and consistent performance of NVMe™ SSDs. Don't save NVMe for only the top workloads. Expand the benefits of NVMe across your data center with Micron's 7300 SSDs. Built for workloads that demand high throughput and low latency while staying within budget, the Micron 7300 is ideal for broadly deployed, mixed read-write, compute, and virtualized workloads of today.

### A Complete NVMe Platform

Get end-to-end NVMe — from system startup to caching to main data storage. Whether you're booting, storing, or caching, the Micron 7300 mainstream NVMe SSDs are the solution for data center infrastructures.

- **System Startup:** Start your systems right with data center NVMe in 80mm and 110mm M.2 form factor with boot-specific capacities as low as 400GB.
- **Storing:** Unlock the value of vast data stores by finding the insights, sorting them, and acting on them right away with the Micron 7300 PRO.
- **Caching:** When hot data drives your business day in and day out, handle the extreme workloads with the high endurance and low, predictable latency of the Micron 7300 MAX.



### 7300 SSD Key Benefits

#### NVMe Performance; Approachable Price Point

Get up to 6X the performance of data center SATA SSDs at comparable prices<sup>1</sup>.

#### Single Port or Dual Port

Choose simple, scalable in-platform single port or dual path, external storage controller dual port, dual controller designs (enabling outside the drive redundancy) so storage systems can share the IO load for failover, high availability, or custom uses.

#### Micron's 96L NAND Technology

Bring the kind of high performance and reliability required for numerous applications with dense, efficient 96-layer 3D NAND architecture.

#### Security for Your Data

Solid, firmware-based security includes options for TCG-Opal 2.0 and IEEE-1667 to support on-device encryption for SEDs (self-encrypted drives). The 7300 also includes power-loss protection for data at-rest and in-flight as well as data-center-class data path protection for user and meta data.

#### A Real Cloud Pleaser

On-prem and off-prem cloud platforms support workloads at immense scale. Affordable mainstream NVMe SSDs like the Micron 7300 deliver the low-latency and high-performance combo that the cloud demands with an average 25µs write latency<sup>2</sup>, up to 520K random read IOPS, and up to 3.0 GB/s read and 1.9 GB/s write throughput.

1. Micron 7300 PRO SSD 2TB U.2 with NVMe (3,000 MB/s sequential read) is 6X higher performance vs Micron 5300 PRO SATA SSD 2TB (540 MB/s sequential read. 540 MB/s is the maximum bandwidth available to any SATA device) and MSRP as of August 2019.  
2. 4KB transfers with a queue depth of 1 are used to measure READ/WRITE latency values.

## Target Workloads and Applications

Micron 7300 SSDs deliver NVMe to a broad range of applications and workloads.

- Distributed storage and in-platform compute: Heavily mixed read/write IO loading
- Online transaction processing: Demanding high, consistent transaction rates with low power
- Block and object stores: Vast pools of blocks and objects, massive streaming in limited physical space
- Emerging and read-intensive emerging applications (like machine learning and model training)

## Key Specifications

7300 PRO: U.2 (7mm) Read-Intensive, 1 Drive Write per Day					7300 MAX: U.2 (7mm) Mixed-Use, 3 Drive Writes per Day				
Capacity <sup>3</sup>		960GB	1.92TB	3.84TB	7.68TB	800GB	1.6TB	3.2TB	6.4TB
Performance	Seq. Read (MB/s) <sup>4</sup>	2,400	3,000	3,000	3,000	2,400	3,000	3,000	3,000
	Seq. Write (MB/s) <sup>4</sup>	850	1,550	1,900	1,900	850	1,550	1,900	1,900
	Rand. Read (K IOPS) <sup>5</sup>	220	396	520	520	220	396	520	520
	Rand. Write (K IOPS) <sup>5</sup>	45	55	95	85	85	135	160	160
Endurance (Total bytes written in PB)		1.9	4.2	9.8	22.4	4.5	9.0	19.2	49
7300 PRO: M.2 (80mm, 110mm) Read-Intensive, 1 Drive Write per Day					7300 MAX: M.2 (80mm) Mixed-Use, 3 Drive Writes per Day				
Capacity <sup>3</sup>		480GB	960GB	1.92TB	3.84TB		400GB	800GB	
Performance	Seq. Read (MB/s) <sup>4</sup>	1,300	2,400	3,000	3,000		1,300	2,400	
	Seq. Write (MB/s) <sup>4</sup>	425	850	1,550	1,550		425	850	
	Rand. Read (K IOPS) <sup>5</sup>	110	220	396	520		110	220	
	Rand. Write (K IOPS) <sup>5</sup>	17	45	55	75		40	85	
Endurance (Total bytes written in PB)		1.1	1.9	4.2	9.8		2.2	4.5	
7300 Common Features									
Basic Attributes	Interface	PCIe Gen3 1x4, 2x2 NVMe							
	Form Factor	U.2 (2.5-inch, 7mm), M.2 (22x80, 22x110)							
	NAND	Micron 96-layer 3D TLC NAND							
	Ave. Latency	Random read: 90µs; Random write 25µs							
Reliability	MTTF	2 million device hours							
	UBER	<1 sector per 10 <sup>17</sup> bits read							
	Warranty	5 years							
Environmental Characteristics	Power	Sequential read: 12W MAX U.2 / 8.25W M.2 Sequential write: 12W MAX U.2 / 8.25W M.2							
	Operating Temp.	0-70°C							
Advanced Features <sup>6</sup>		Flex Capacity™, AES 256-bit encryption, 256bit SED, power loss protection for data in-flight, end-to-end enterprise data path protection, secure firmware, adaptive thermal monitoring, easy to install (U.2 hot pluggable), Storage Executive SSD management tool, RAIN, Dual Port with Reservations, NVMe Subsystem Reset, NVMe-MI over SMBus, Firmware Activate without reset, T-10 DIF support (520,4104,4160), TAA Compliant							

3. Unformatted. 1GB = 1 billion bytes. Formatted capacity is less.

4. 128KB transfer size, QD = 32, steady state.

5. 4KB transfer size, QD = 512, steady state.

6. No hardware, software or system can provide absolute security under all conditions. Micron assumes no liability for lost, stolen or corrupted data arising from the use of any Micron products, including those products that incorporate any of the mentioned security features.

## Part Numbers

SSD	Standard Part	Capacity	Namespace Format (Bytes)	Form Factor	TCG-Opal +eDrive Support
PRO	MTFDHBE960TDF-1AW1ZABYY	960GB	512	U.2	No
	MTFDHBE1T9TDF-1AW1ZABYY	1.92TB	512	U.2	No
	MTFDHBE3T8TDF-1AW1ZABYY	3.84TB	512	U.2	No
	MTFDHBE7T6TDF-1AW1ZABYY	7.680TB	512	U.2	No
	MTFDHBA480TDF-1AW1ZABYY	480GB	512	M.2 22x80mm	No
	MTFDHBA960TDF-1AW1ZABYY	960GB	512	M.2 22x80mm	No
	MTFDHBG1T9TDF-1AW1ZABYY	1.92TB	512	M.2 22x110mm	No
	MTFDHBG3T8TDF-1AW1ZABYY	3.84TB	512	M.2 22x110mm	No
	MTFDHBE960TDF-1AW4ZABYY	960GB	4096	U.2	No
	MTFDHBE1T9TDF-1AW4ZABYY	1.92TB	4096	U.2	No
	MTFDHBE3T8TDF-1AW4ZABYY	3.84TB	4096	U.2	No
	MTFDHBE7T6TDF-1AW4ZABYY	7.68TB	4096	U.2	No
	MTFDHBA480TDF-1AW4ZABYY	480GB	4096	M.2 22x80mm	No
	MTFDHBA960TDF-1AW4ZABYY	960GB	4096	M.2 22x80mm	No
	MTFDHBG1T9TDF-1AW4ZABYY	1.92TB	4096	M.2 22x110mm	No
	MTFDHBG3T8TDF-1AW4ZABYY	3.84TB	4096	M.2 22x110mm	No
	MTFDHBE960TDF-1AW12ABYY	960GB	512	U.2	Yes
	MTFDHBE1T9TDF-1AW12ABYY	1.92TB	512	U.2	Yes
	MTFDHBE3T8TDF-1AW12ABYY	3.84TB	512	U.2	Yes
	MTFDHBE7T6TDF-1AW12ABYY	7.680TB	512	U.2	Yes
	MTFDHBA480TDF-1AW12ABYY	480GB	512	M.2 22x80mm	Yes
	MTFDHBA960TDF-1AW12ABYY	960GB	512	M.2 22x80mm	Yes
	MTFDHBG1T9TDF-1AW12ABYY	1.92TB	512	M.2 22x110mm	Yes
	MTFDHBG3T8TDF-1AW12ABYY	3.84TB	512	M.2 22x110mm	Yes
	MTFDHBE960TDF-1AW42ABYY	960GB	4096	U.2	Yes
	MTFDHBE1T9TDF-1AW42ABYY	1.92TB	4096	U.2	Yes
	MTFDHBE3T8TDF-1AW42ABYY	3.84TB	4096	U.2	Yes
	MTFDHBE7T6TDF-1AW42ABYY	7.68TB	4096	U.2	Yes
	MTFDHBA480TDF-1AW42ABYY	480GB	4096	M.2 22x80mm	Yes
	MTFDHBA960TDF-1AW42ABYY	960GB	4096	M.2 22x80mm	Yes
MTFDHBG1T9TDF-1AW42ABYY	1.92TB	4096	M.2 22x110mm	Yes	
MTFDHBG3T8TDF-1AW42ABYY	3.84TB	4096	M.2 22x110mm	Yes	
MAX	MTFDHBE800TDG-1AW1ZABYY	800GB	512	U.2	No
	MTFDHBE1T6TDG-1AW1ZABYY	1.6TB	512	U.2	No
	MTFDHBE3T2TDG-1AW1ZABYY	3.2TB	512	U.2	No
	MTFDHBE6T4TDG-1AW1ZABYY	6.4TB	512	U.2	No
	MTFDHBA400TDG-1AW1ZABYY	400GB	512	M.2 22x80mm	No
	MTFDHBA800TDG-1AW1ZABYY	800GB	512	M.2 22x80mm	No
	MTFDHBE800TDG-1AW4ZABYY	800GB	4096	U.2	No
	MTFDHBE1T6TDG-1AW4ZABYY	1.6TB	4096	U.2	No
	MTFDHBE3T2TDG-1AW4ZABYY	3.2TB	4096	U.2	No
	MTFDHBE6T4TDG-1AW4ZABYY	6.4TB	4096	U.2	No
	MTFDHBA400TDG-1AW4ZABYY	400GB	4096	M.2 22x80mm	No
	MTFDHBA800TDG-1AW4ZABYY	800GB	4096	M.2 22x80mm	No
	MTFDHBE800TDG-1AW12ABYY	800GB	512	U.2	Yes
	MTFDHBE1T6TDG-1AW12ABYY	1.6TB	512	U.2	Yes
	MTFDHBE3T2TDG-1AW12ABYY	3.2TB	512	U.2	Yes
	MTFDHBE6T4TDG-1AW12ABYY	6.4TB	512	U.2	Yes
	MTFDHBA400TDG-1AW12ABYY	400GB	512	M.2 22x80mm	Yes
	MTFDHBA800TDG-1AW12ABYY	800GB	512	M.2 22x80mm	Yes
	MTFDHBE800TDG-1AW42ABYY	800GB	4096	U.2	Yes
	MTFDHBE1T6TDG-1AW42ABYY	1.6TB	4096	U.2	Yes

SSD	Standard Part	Capacity	Namespace Format (Bytes)	Form Factor	TCG-Opal +eDrive Support
	MTFDHBE3T2TDG-1AW42ABYY	3.2TB	4096	U.2	Yes
	MTFDHBE6T4TDG-1AW42ABYY	6.4TB	4096	U.2	Yes
	MTFDHBA400TDG-1AW42ABYY	400GB	4096	M.2 22x80mm	Yes
	MTFDHBA800TDG-1AW42ABYY	800GB	4096	M.2 22x80mm	Yes

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