



Invigorate Your Infrastructure

Moving to all-flash storage often involves choosing SATA, and your workloads deserve innovation. The Micron® 5300 series of SATA solid state drives (SSDs) brings you the latest 3D NAND technology with everything you expect from Micron's SATA portfolio, which is the broadest in the industry. As the first cost-effective, 96-layer TLC NAND flash drive for SATA, the Micron 5300 rewards modernization efforts with high performance, consistency, and reliability on a proven architecture. The Micron 5300 SSD has a mean time to failure (MTTF) of 3 million device hours—50% more than the norm.¹

Modernize and Economize to Maximize

Refresh your data center and gain performance upgrades. Modernize your racks, stacks, and server arrays by updating your data center with the performance, consistency, and expanded data security of the Micron 5300 SSD. Its enterprise-class SATA storage delivers robust, consistent performance at 6 Gb/s for your data center and cloud, along with sequential read speeds of 540 MB/s.²

Security for Flash Storage

The Micron 5300 series of SATA SSDs includes Micron's solid, secure firmware features — secure digital signatures and boot-time attestation — plus AES 256-bit hardware encryption that follows the TCG Security Subsystem Class (SSC) Enterprise specification for storage devices for servers, data centers, and enterprise applications. The 5300 SSDs operate with the drive's onboard encryption engine, so encryption doesn't cause a degradation in performance.



Key Benefits

96-Layer NAND SATA

With the industry's first cost-effective, 96-layer, 3D TLC NAND for SATA, the Micron 5300 modernizes your data center with high performance, affordability, and consistent performance. Choose from market-friendly M.2 (22x80mm) and 2.5-inch form factors.

Security for Your Data

Solid, secure firmware-based security includes options for TCG Enterprise, TCG Opal 2.0 to support on-device encryption for SEDs, and ATA Security. The 5300 also includes power-loss protection for data at-rest and in-flight, as well as enterprise data path protection for user and meta data.

Performance for Read-Intensive, Mixed-Use

Take advantage of the Micron 5300 optimizations for read-intensive and mixed-use workloads. Your cloud and data centers will show strong performance for media streaming, online transaction processing (OLTP), block and object stores, business intelligence and data SS, and small random block. The Micron 5300 PRO delivers in the capacity tier on VDI/virtualization, while the Micron 5300 MAX delivers on the capacity tier.

Broadest SATA Portfolio Gives You Options

Micron's long-term commitment to the enterprise SATA SSD space means you have options in how you move to an all-flash future. Extend your SATA infrastructure from 240GB boot drives (a new model for robust startup that keeps data storage slots available), to high-capacity 8TB SSDs.

1. Per public data sheet specifications, the Micron 5300 SSD has a mean time to failure (MTTF) of 3 million device hours, compared to 2 million hours for SATA enterprise SSDs

2. 540 MB/s is the maximum bandwidth available to any SATA device.

Target Workloads and Applications



Media Streaming



Business Intelligence/DSS



Small Random Block



Block and Object Stores



OLTP

Key Specifications

| | | 5300 Boot ³ | 5300 PRO ⁴ | | | | | | 5300 MAX ⁵ | | | | |
|---------------------------------------|-----------------------------------|---|-----------------------|-----------|-----------|-----------|---------|---------|-----------------------|--------|--------|---------|---------|
| Capacity ⁶ | | 240 GB | 240 GB | 480 GB | 960 GB | 1.92 TB | 3.84 TB | 7.68 TB | 240 GB | 480 GB | 960 GB | 1.92 TB | 3.84 TB |
| Performance | Seq. Read (MB/s) ⁷ | 540 | 540 | 540 | 540 | 540 | 540 | 540 | 540 | 540 | 540 | 540 | 540 |
| | Seq. Writ (MB/s) ⁷ | 220 | 310 | 410 | 520 | 520 | 520 | 520 | 380 | 460 | 520 | 520 | 520 |
| | Rand. Read (K IOPS) ⁸ | 50 | 67 | 85 | 95 | 95 | 95 | 95 | 82 | 95 | 95 | 95 | 95 |
| | Rand. Write (K IOPS) ⁸ | 12 | 40 | 36 | 35 | 30 | 22 | 11 | 60 | 60 | 75 | 70 | 34 |
| Endurance (Total Bytes Written in TB) | | 438 | 657 | 1324 | 2628 | 5256 | 8410 | 9110 | 2190 | 4380 | 8760 | 17,520 | 24,528 |
| Form Factor | | M.2 | M.2, 2.5" | M.2, 2.5" | M.2, 2.5" | M.2, 2.5" | 2.5" | 2.5" | 2.5" | 2.5" | 2.5" | 2.5" | 2.5" |
| Basic Attributes | Interface | SATA (6 Gb/s) | | | | | | | | | | | |
| | Form Factor | 2.5-inch: 7mm M.2: 22x80mm | | | | | | | | | | | |
| | NAND | Micron 96-layer 3D TLC NAND | | | | | | | | | | | |
| | 99.9% Latency | Random read: ⁹ 175µs to 200µs; Random write: ⁹ 100µs to 650µs | | | | | | | | | | | |
| Reliability | Mean Time to Failure | 3 million device hours | | | | | | | | | | | |
| | UBER | <1 sector per 10 ¹⁷ bits read | | | | | | | | | | | |
| | Warranty | Up to 5 years | | | | | | | | | | | |
| Environmental Characteristics | Power | Sequential read: <3W MAX ⁹ Sequential write: <3.9W MAX ⁹ | | | | | | | | | | | |
| | Operating Temp. | 0-70°C | | | | | | | | | | | |
| Physical Characteristics | Size (L x W x H) | 2.5-inch: 100.45mm x 69.85mm x 7.00mm M.2: 80mm x 22mm x 3.8mm | | | | | | | | | | | |
| | Weight | 2.5-inch: <70g M.2: <10g | | | | | | | | | | | |
| Advanced Features ¹⁰ | | Flex Capacity, AES 256-bit encryption, TCG Enterprise configurability, TCG Opal, power loss protection for data at-rest and in-flight, enterprise data path protection for user and meta data, secure firmware, adaptive thermal monitoring, easy to install (hot-pluggable), Storage Executive SSD management tool, RAIN | | | | | | | | | | | |

3. Read-intensive, 1 drive write per day

4. Read-intensive, 1-2 drive writes per day

5. Mixed-use, 3-5 drive writes per day

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

7. 128KB transfer size, QD = 32, steady state.

8. 4KB transfer size, QD = 512, steady state.

9. Configuration-dependent

10. 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.

Base Part Numbers

| SSD Family | Standard Part | Capacity | Form Factor |
|------------|-------------------------|----------|-------------|
| PRO | MTFDDAK240TDS-1AW1ZABYY | 240GB | 2.5 |
| | MTFDDAK480TDS-1AW1ZABYY | 480GB | 2.5 |
| | MTFDDAK960TDS-1AW1ZABYY | 960GB | 2.5 |
| | MTFDDAK1T9TDS-1AW1ZABYY | 1.92TB | 2.5 |
| | MTFDDAK3T8TDS-1AW1ZABYY | 3.84TB | 2.5 |
| | MTFDDAK7T6TDS-1AW1ZABYY | 7.68GB | 2.5 |
| | MTFDDAV240TDS-1AW1ZABYY | 240GB | M.2 |
| | MTFDDAV480TDS-1AW1ZABYY | 480GB | M.2 |
| | MTFDDAV960TDS-1AW1ZABYY | 960GB | M.2 |
| | MTFDDAV1T9TDS-1AW1ZABYY | 1.92TB | M.2 |
| MAX | MTFDDAK240TDT-1AW1ZABYY | 240GB | 2.5 |
| | MTFDDAK480TDT-1AW1ZABYY | 480GB | 2.5 |
| | MTFDDAK960TDT-1AW1ZABYY | 960GB | 2.5 |
| | MTFDDAK1T9TDT-1AW1ZABYY | 1.92TB | 2.5 |
| | MTFDDAK3T8TDT-1AW1ZABYY | 3.84TB | 2.5 |
| Boot | MTFDDAV240TDU-1AW1ZABYY | 240GB | M.2 |

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