

256/512GB TRRUST-Stor® SATA SLC Solid State Drive (SSD)

Models MSD256 and MSD512



Mercury's MSD256 and MSD512 are the next generation in the TRRUST-Stor family of Solid State Drives (SSD) provides 200 GB and 450 GB host accessible non-volatile storage using reliable long life SLC NAND flash. These SSD's are designed for outstanding reliability, performance and security for applications in rugged environments.

Features

- Host accessible capacity: 200 GB or 450 GB (1GB = 1,000,000,000 bytes)
- Commands: ATA-7, ATA-8
- Media: SLC NAND flash
- Form factor: 2.5" (100.45 × 69.85 × 9.5 mm)
- Power: 5V +/- 10%; 1.8W standby
- Operating temperature: -40° C to +85° C
- SATA at 1.5 Gb/s or 3 Gb/s (SATA III compatible)

Performance

- Sustained sequential reads and writes: Up to 200 MB/s
- Reset-to-ready time: 1.5s

Data Management and Protection

- Superior ECC
- Uncorrectable bit error rate: 1 sector per 10-18 bits read
- Protection from silent data corruption 32-bit CRC per sector
- No forced EOL from firmware/controller availability issues
- Mean time between failures: >2,000,000 hours

- Write endurance:
 - 4 petabytes for the MSM256 drive
 - 8 petabytes for the MSM512 drive
- Power loss protection
 - Operational stability during power interruptions
 - No super caps or batteries that degrade over time and temperature
- Read and write wear leveling
- SMART attributes (self-monitoring, analysis, and reporting technology)
- Built-in self-test

Certifications

- AES-256-XTS NIST certification #2802 (<http://csrc.nist.gov/groups/STM/cavp/documents/aes/aesval.html>)

Security

- Hardware authentication
- Self Encrypting Drive (SED) AES encryption with a 256-bit key with XTS CBM
- TRRUST-Purge® destroys key in less than 30 ms
- Hardware based erase in less than 4 seconds
- Compliant sanitization protocols
- US-made with full BOM and assembly control

Mercury Systems is a leading commercial provider of secure sensor and safety-critical processing subsystems. Optimized for customer and mission success, Mercury's solutions power a wide variety of critical defense and intelligence programs.



Environmental and Mechanical

- Operating temperature: -40° C to +85° C
- Storage temperature: -55° C to +125° C
- Humidity: 5%–95%, non-condensing
- Weight: ~158 g
- Operating shock:
 - 3,000 G, 0.5 ms, 1/2 sine, 6 shocks per axis
 - 100 G, 11 ms, 1/2 sine, 6 shocks per axis
- Vibration: 30 Grms, Mil-STD-810F, method 514.5C–8, 15–2000 Hz, 3 axes (1 hr each axis)
- Enhanced mechanical construction: Component staking and underfill is standard

Additional Options

- Extended burn-in
- OEM customization
- Leaded BGAs
- Ruggedized interface connectors
- Custom labeling
- Capacity de-stroking

Description

The TRRUST-Stor SSD realizes solid state technology's true potential with features that meet the stringent requirements of critical applications. TRRUST-Stor addresses rugged small form factor, security options, sanitization protocols, obsolescence management, and high reliability in extended environments.

Mercury's proprietary design provides unparalleled data integrity and endurance by focusing processing power on error correction, wear leveling, and eliminating drive corruption and unscheduled down time. This failure prevention methodology protects data from catastrophic failures in critical applications and provides a much needed layer of protection.

Keeping sensitive data from getting in the wrong hands is also a big concern and is accomplished with features including AES-256 encryption, sanitization protocols, and Mercury's TRRUST-Purge® technology that renders data forensically unrecoverable in less than 30ms.

The Armor® management processor provides the TRRUST-Stor with these feature-rich capabilities and the flexibility required to serve the many operating requirements in today's critical applications. By having control and ownership of the Armor management processor, Mercury eliminates any dependence on a third party manufacturers' controller,

thus protecting our customers from those all too often costly changes and/or end-of-life problems.

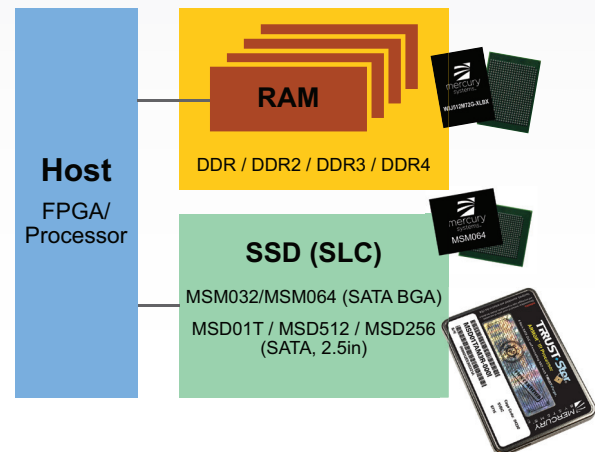
By developing a robust power interruption solution that does not depend on super caps or batteries, problems of data loss or corruption during power loss events are avoided.

The Mercury TRRUST-Stor is ideal for critical applications, including:

- Surveillance
- Data recorders
- Field computers
- Digital map storage
- GPS and communications systems

All design and manufacturing for the TRRUST-Stor is done in the U.S. in our DOD trusted facility. Mercury has a long history as an industry-leading manufacturer of innovative, high-reliability memory solutions.

Typical Application



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