

# Secure Solid State Drives (SSD)

## ASURRE-Stor® SATA SLC SSD

*Models ASD256/512 engineered to CSfC, FIPS 140-2, and Common Criteria (CC) requirements*



- Data at rest protection when implemented as a component in a customer's two-layer CSfC solution for the protection of classified, secret, and top secret data.
- ARMOR™ processor seamlessly integrates certified cryptographic algorithms in highly ruggedized 2.5" form factor
- 256 and 512 GB capacity options

Mercury's ASURRE-Stor SSD marries high-endurance NAND flash with a military-hardened 2.5" form factor for the mission-critical storage of classified, secret, and top secret data in accordance with the [Commercial Solutions for Classified \(CSfC\)](#) program's hardware full disk encryption (HWFDE) standards. The ASURRE-Stor SSD is listed on the NSA's CSfC components list, available to be integrated into a customer's CSfC two-layer security solution.

Building on the commercial success of Mercury's TRRUST-Stor® family of solid state drives, the ASURRE-Stor SSD is compliant to SATA revision 2.6 with interface speeds up to 3.0 GB/s, though it is also compatible with 6 Gb/s interfaces. Currently available in either 256 or 512 GB capacity options, Mercury maintains 100% authority over the design and programming of its Armor® controller to integrate certified cryptographic algorithms for data at rest protection with predictable and sustainable performance in thermally and mechanically stressful operating environments.

### Performance

- Sustained sequential read and write up to 200MB/s
- Reset-to ready time 1.5s
- Mean time between failures: >2,500,000 hours

### Certifications:

- AES-256 XTS FIPS 197 Certificate #2802
- Contact Mercury for details on other cryptographic algorithm certifications
- FIPS 140-2 certification #2884
- CC Certificate #CCEVS-VR-VID10783-2017
- CSfC component listed

### Security

- Self-encrypting SSD using AES-256 XTS
- Mercury ARMOR controller
- Hardware authentication
- Write protect for read-only applications
- User configurable sanitization protocols, including TRRUST-Purge® encryption key destruction in <30ms, Fast Clear erase in 8s, and compliance to other common sanitization protocols.
- Multiple key management modes, including external key fill via DS-101 isolated fill port or RS-232 fill port.

### Data Management and Protection

- Superior ECC and read/write wear leveling algorithms optimized for military applications
- Uncorrectable bit error rate (UBER): <1 sector per 10-18 bits read
- Self-monitoring, analysis, and reporting technologies (SMART)
- Write endurance: 4.5 petabytes for 256 GB capacity, 9 petabytes for 512 GB capacity
- Unique power management circuitry, free of temperature-sensitive batteries and supercapacitors, for data integrity preservation
- Self-monitoring, analysis, and reporting technologies (SMART)
- Continuous built-in self-test monitoring

*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.*



ACQUIRE



DIGITIZE



PROCESS



STORAGE



EXPLOIT



DISSEMINATE

## Environmental and Mechanical

- Operating temperature: -40° C to +85° C
- Storage temperature: -55° C to +125° C
- Humidity: 5% - 95%, non-condensing
- Weight: ~158 grams
- Altitude: 80,000 feet
- Operating Shock:
  - 3,000G, 0.5ms, 1/2 sine, 6 shocks per axis
  - 100G, 11ms, 1/2 sine, 6 shocks per axis
- Vibration:
  - 30 Grms, MIL-STD-810G, method 514.5C-8, 15-2000 Hz, 3 axes (1 hr each axis)
- Component staking and underfill for enhanced mechanical construction

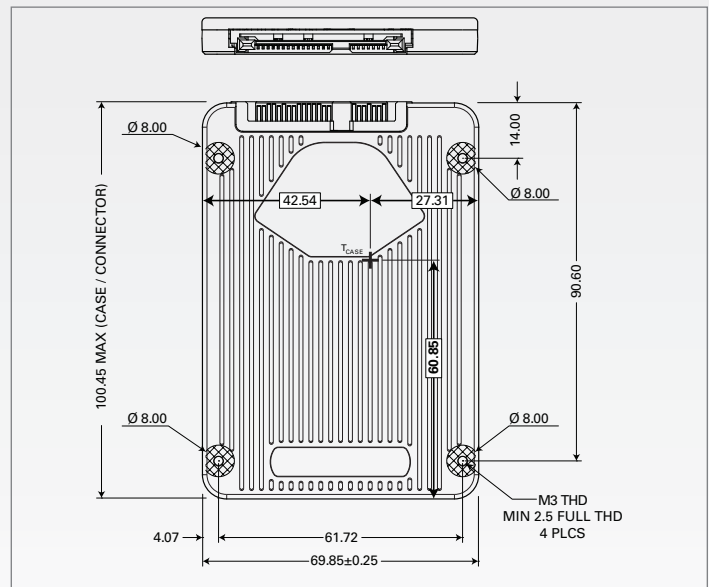
## Additional Options Available

- Leaded BGA assembly
- Extended temperature and burn-in screening
- Ruggedized interface connectors
- Capacity de-stroking
- Larger storage capacities

## Need More Help?

Contact Mercury's Secure SSD application engineering team at  
[secure.ssd@mrchy.com](mailto:secure.ssd@mrchy.com)

## Package Dimensions



## Part Numbering

ASD XXX AM2R - 000I X

Capacity: \_\_\_\_\_  
 256: 256 GB  
 512: 512 GB

Standard Product \_\_\_\_\_  
 (options available)

F - Meets FIPS 140-2 certification requirements  
 C - Meets FIPS 140-2 and CC certification requirements and eligible for use as a component in a CSfC solution

Example part Number: ASD512AM2R-000IF



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