

GALATEA SATA SOLID STATE DRIVE

OVERVIEW

Galatea™ SSDs provide a standard solution for leading edge computing and communication applications where security and reliability are dominant concerns. Breakthrough SSD controller technology enables Galatea SSDs to deliver order-of-magnitude improvements in random operations (IOPS), bit error rate, and SSD life expectancy, with capacities of 50GB, 100GB, and 200GB.

STANDARD

- Support for SATA 2.6 at 1.5 and 3.0 Gb/s with Hot Pluggable and Native Command Queuing
- Full support for TRIM command, SATA and ATA power management, and SMART Command Set
- No device driver development required
- Industry-standard 9.4mm high, 2.5 inch form factor
- Standard military input voltage tolerance of $\pm 10\%$
- Designed and manufactured in USA at AS9100-certified facilities with media made in USA

FAST

- Sustained read / write at up to 260 MB/s
- Random, short block read / write at over 30,000 IOPS

SECURE

- Erasure and Write Protect triggered by hardware or software
- Data protected by 128-bit AES encryption
 - No human intervention in key management required
- Support for agency-approved erase methods:
 - Crypto-Erase (200GB < 10 milliseconds)
 - NSA/CSS 9-12
 - NSA/CSS 130-2
 - RCC IRIG 106-2007
 - Air Force AFSSI 5020
 - Navy NAVSO P-5239-26
 - Army 380-19
 - DoD 5220.22-M NISPRM (Std and Sup 1)
 - User definition of custom algorithms

RELIABLE

- Ruggedized design; tested to MIL-STD-810
- Precision machined, anodized aluminum case
- Bit error rate of 1 in 10^{16}
- MTBF > 1.0 million hours
- Breakthrough controller technology delivers order-of-magnitude improvement in SSD life expectancy
- Built-in power-fail backup prevents data loss during unexpected power failures
- Enhanced reliability options include conformal coating, staking and component encapsulation

APPLICATIONS

- Military and Defense — Ground, Sea and Air
- Ruggedized computers / notebooks — mobile and system-based
- Homeland Security / Surveillance / Mapping / Reconnaissance / Remote Sensing
- Aerospace avionics, cockpit instrumentation – both commercial and defense
- Unmanned vehicles including UAVs, UUVs, and robotics
- When your SSD absolutely, positively has to work !



GALATEA SATA SSD SPECIFICATIONS

PERFORMANCE

Capacity	50GB, 100GB, 200GB (GB refers to 1,000,000,000 bytes)
Sector Size	512 Byte standard
Sustained Read	Up to 260 MB/s
Sustained Write	Up to 260 MB/s
Random Read, 4KB blocks	> 30,000 IOPS
Random Write, 4KB blocks	> 30,000 IOPS

SECURITY

Embedded Encryption	AES-128
Standard Erasure Methods Supported	Crypto-Erase, NSA/CSS 9-12, NSA/CSS 130-2, RCC IRIG 106-2007, Air Force AFSSI 5020, Navy NAVSO P-5239-26, Army 380-19, DoD 5220.22-M NISPOM (Std and Sup 1), user-defined

POWER

Input Voltage	+5VDC \pm 10%
Read	2.65 W Maximum
Write	3.00 W Maximum
Max In-rush current	< 1 Amp

RELIABILITY

MTBF	> 1 million hours
Data Reliability	< 1 non-recoverable error in 10^{16} bits read
Data Retention	> 10 years
SSD Endurance	Lifetime Write Capability > 20,000 Terabytes
Wear-Leveling	Proprietary static and dynamic algorithms

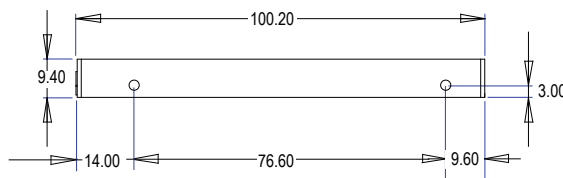
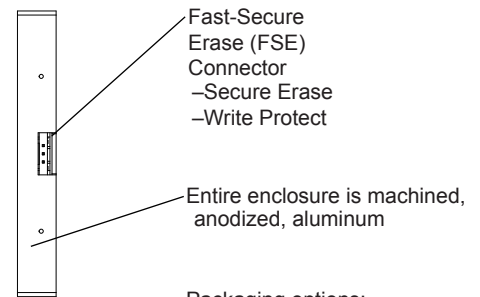
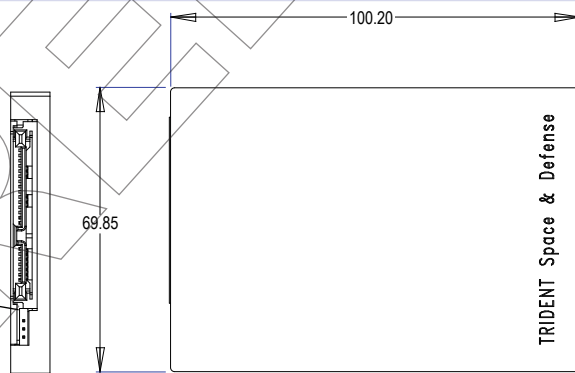
ENVIRONMENT

Operating Temperature	-40°C to +85°C
Storage Temperature	-50°C to +95°C
Altitude	80,000 feet
Humidity	5% to 95% relative humidity, non-condensing
Shock	1,500G at 0.5ms
Vibration	16.3G minimum RMS
MIL-STD-810 Test Options	Thermal Cycling, Thermal Shock, Vibration, Gunfire Vibration, Low Pressure, Sand & Dust, Fungus, Explosive Atmosphere, Salt Fog.

MECHANICAL

Dimensions (mm)

ATA standard



Packaging options:

- Conformal coat
- Silicone gel fill
- Epoxy staking

