

# TCS Space & Component Technology

## Proteus Plus - Solid State Drive



### Features

- Support for SATA 2.6 at 1.5 and 3.0 Gb/s
- 64MB cache enables high IOPS for small block random operations
- Available with and without secure erase capability
- Alternative enhanced erasure available on request
- Write Protect by jumper
- Ruggedized design; tested to MIL-STD-810
- Precision machined, anodized aluminum alloy case
- Enhanced reliability options include conformal coating, staking, and component encapsulation
- No device driver development required (completely compatible with standard SATA)

### 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, robotics and mine detection
- Radar/Guidance Systems and Telemetry/Tracking
- Vehicle Management/Information Systems
- Extreme operating environments including down-hole drilling and transportation
- Where your SSD absolutely, positively has to work!

TCS Space & Component Technology introduces the Proteus Plus Solid State Drives (SSDs) that extend write performance over the established Proteus series. With 20% faster sustained writes and random writes of 4K blocks running almost 3x faster, these SSDs can better support intense system applications that require higher levels of performance.

Proteus Plus SSDs deliver ultra-high-reliability mass storage in an industry-standard package. They fit the standard 2.5 inch drive dimensions, allowing direct replacement of rotating disk drives.

Secure erase functionality features seven different agency-approved enhanced erase methods. Software command or an internal jumper initiate erasure.

Proteus Plus SSDs support the SATA, revision 2.6, interface standard at up to 3.0Gb/s. With a high speed controller and 64MB of on-board cache, the Proteus Plus SSD delivers sustained reads up to 250MB/s and sustained writes up to 205MB/s. A robust interface is ensured by integrated hardware support for on-the-fly, per sector error detection and correction. The resulting Bit Error Rate is less than one in  $10^{14}$ .

Rigorously tested and independently verified to MIL-STD-810, the ultra-rugged Proteus Plus SSD will survive the harshest environments. The drives have a conservatively calculated MTBF of over 1.24 million hours. Industrial grade SLC NAND technology provides data retention of over 10 years and write endurance of over 100,000 writes.

Designed and manufactured in the USA at AS9100-certified facilities, the TCS SSDs are the unquestioned reliability leaders among high-performance, rugged SSDs.

**Contact**

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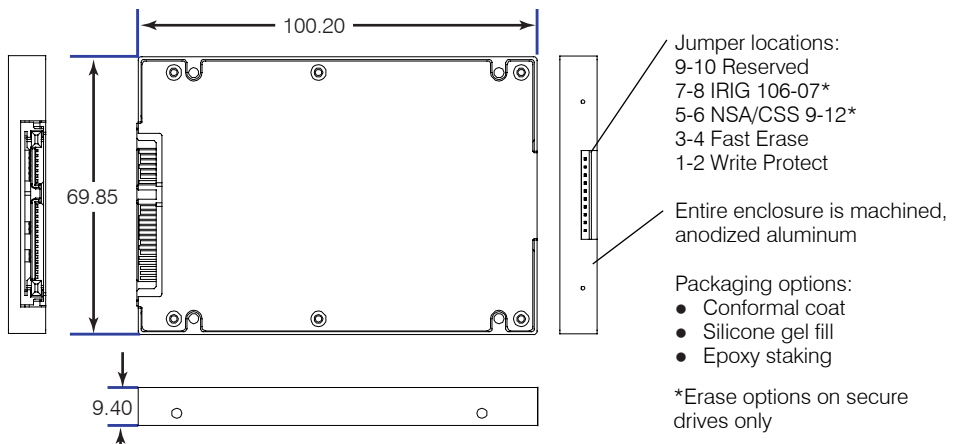
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Specifications	
<b>Performance</b>	
Capacity	Raw: 32GB, 64GB, 128GB, 256GB User: 29.8GB, 59.6GB, 119.2GB, 238.4GB
Cache Size / Sector Size	64MB / 512 Byte Standard
Sustained Read (128GB SSD)	Up to 250 MB/s
Sustained Write (128GB SSD)	Up to 205 MB/s
Random Read, 4KB blocks (128GB SSD)	> 7500 IOPS
Random Write, 4KB blocks (128GB SSD)	> 1700 IOPS
<b>Erase Methods</b>	
Fast Erase, DoD NISPOM 5220.22-M, DoD NISPOM 5220.22-M Sup 1, NSA/CSS 9-12, Army AR 380-19, Navy NAVSO P-5239-26, Air Force AFSSI-5020, RCC-TG IRIG 106-7	
<b>Power</b>	
Input Voltage	+5VDC ± 10%
Read Max (256GB SSD)	1.45 W
Write Max (256GB SSD)	2.75 W
Max. In-rush Current (128GB SSD)	< 1.5 Amp
<b>Reliability</b>	
MTBF	> 1.24 million hours, Telcordia 25°C
Data Reliability	< 1 non-recoverable error in 10 <sup>14</sup> bits read
Data Retention	> 10 years
Endurance	> 100,000 writes
Wear-Leveling	Proprietary static and dynamic algorithms
<b>Environment</b>	
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, Shock, Vibration, Gunfire Vibration, Low Pressure, Sand & Dust, Fungus, Explosive Atmosphere, Salt Fog
<b>Mechanical</b>	
Dimensions (mm)	ATA Standard



Product Information and Specifications subject to change without notice. DS-TSDEP25S-C