

2.5" SATA/PATA SSD Series

innoRobust[®]



Security | Reliability | Quality



Industrial Storage Device

InnoRobust Series Overview

- InnoRobust brings you to experience the most advanced flash storage series. InnoRobust provides SSD within extreme reliability and outstanding performance, and also introduces data security features which is targeted in military, defense and aerospace applications.
- Considering military, defense and aerospace applications, InnoRobust provides specifications which can be customized based on customers' demand, including environmental condition in order to compliance MIL-STD standard and data secure erase standards as well.
- InnoDisk assures the willingness for long term and flexible support for customers since the application focused on military and aerospace which is concerned reliability, performance and data security. InnoRobust is the right solution for customers who are looking for flash storage for military and aerospace applications.

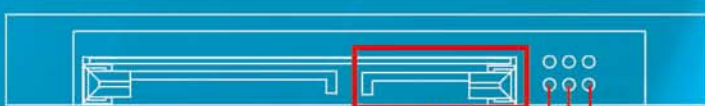
Reliability

- Altitude: 80,000 ft
- Wide Temp: -40°C to 85°C
- Thermal shock : MIL-STD-810F 503.4 Procedure II
- Drop : MIL-STD-810F 516.5 Procedure IV
- Transit Drop specification
- Shock : 1500G Shock/
MIL-STD-810F 516.5 specification
40g/11ms/18 shocks (3 shocks for +- X,YZ axis)
- Vibration :
20G Vibration / MIL-STD-810F 514.5C-1 specification
- Thermal shock: MIL-STD-810-503.4 Procedure II
(-40°C to 85°C, 10 cycles)
- Humidity: 5%~95%

Performance

- Sustained R/W Up to 175/90MB/s
- Random R/W IOPS Up to 2400/150

InnoRobust Eraser/Destroy Time



ATA Command

1. Triggering the QEraser with a jumper on the host or device or give a order through the ATA command.
2. The SEraser and QEraser function access the flash chip in the drive and erase the data. However, if the device is processed Destroy function, the device would totally extirpated, which is unrecoverable.

Data Security/Protection

- QEraser
- SEraser
- Write Protect
- Destroy

Conformal Coating

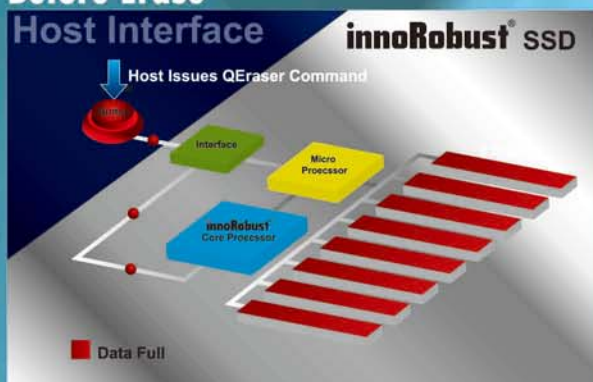
- Preventing corrosion
- MIL-I-46058C silicon conformal coating
-Solution for -40°C to +85°C Environmental
-Thermal shock
-Insulation resistance
-Moisture resistance
-Flame resistance

Applications

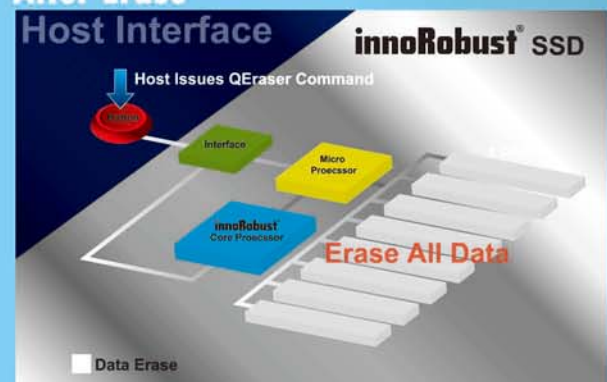
- Digital Video Recorder
- Rugged Computing
- Enterprise Server
- Embedded / Industrial System

	Destroy					
	8GB	16GB	32GB	64GB	128GB	
InnoRoBust SATA	2.5	3.5	3.9	4.5	4.9	
InnoRoBust Ultra SATA	-	2.5	3.5	3.9	4.5	
InnoRoBust PATA	2.5	3.5	3.9	4.5	4.9	
	QEraser					Unit: sec.
	8GB	16GB	32GB	64GB	128GB	
InnoRoBust SATA	8	12	16	35		
InnoRoBust Ultra SATA	-	8	12	16	35	
InnoRoBust PATA	8	12	16	35		

Before Erase



After Erase



InnoRobust Eraser Function Application

Features	Standard	Description	Application
QEraser	Ultra Speed Quick Erase	1.5 times quick erase rate. (For InnoRobust Ultra SSD only)	InnoRobust Ultra SATA SSD
	Quick Erase	Quick erase.	InnoRobust SATA SSD InnoRobust PATA SSD
SEraser	DoD 5220.22-M	Erase, overwrite with a single character, and then erase again.	InnoRobust Ultra SATA SSD InnoRobust SATA SSD InnoRobust PATA SSD
	USA-AF AFSSI 5020	Erase, and overwrite with random data.	
	USA Navy NAVSO P-5239-26	Erase, overwrite with random data, and then erase again.	
	NSA Manual 130-2	Erase, overwrite with random data twice, and then erase and overwrite with one character.	
	USA-Army 380-19	Erase and overwrite with random data, erase and overwrite with one character, and then erase and overwrite with complement of the character.	
	NISPOMSUP Chap 8, Sect. 8-501	Overwrite all locations with one character, its complement, and then random data.	
PATENT Destroy	InnoDisk Destroy	Ultra speed erase user data/ MBR/ FAT table/ Firmware	

Specification



Model Name	InnoRobust Ultra SATA	InnoRobust SATA	InnoRobust PATA
			
Interface	SATA II 3.0G	SATA II 3.0G	ATA/IDE 44pin
Capacity	16GB ~ 128GB	8GB ~ 128GB	8GB ~ 128GB
	Performance		
Sustained Performance (MB/sec)	Read: 175 MB/sec Write: 90 MB/sec	Read: 155 MB/sec Write: 55 MB/sec	Read: 85 MB/sec Write: 45 MB/sec
IOPS Random Performance @ 4KB (Alignment 4KB)	Read: 2400 Write: 150	Read: 2300 Write: 140	Read: 2300 Write: 140
	Consumption Performance		
Read	740mA (max.)	350mA (max.)	350mA (max.)
Write	770mA (max.)	400mA (max.)	400mA (max.)
Idle	460mA (max.)	150mA (max.)	150mA (max.)
	Environmental		
Altitude	80,000 ft		
Operating Temperature	0°C to +70°C (Standard) ; -40°C to +85°C (Industrial)		
Storage Temperature	-55°C to 95°C		
Mechanical Shock	1500G		
Vibration	20G		
Humidity	5-95%, non-condensing		
Conformal Coating	Optional		
Write Protect	Supported		
DATA Retention	> 10 years		
	Dimension		
LxWxH (mm)	99.88x69.63x9.3	99.88x69.63x9.3	100.1x69.8x9.5



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