

# 3.5" SCSI 50-Pin Narrow Solid State Drive



## RRT-35SFS-SN

The 3.5" SCSI 50-pin Narrow Solid State Drive (SSD) is a proprietary FPGA based design that provides a long term solution for replacement of obsolete SCSI drives.

The design provides a transparent interface from the SCSI bus to a COTS 2.5" SATA SSD.

Custom firmware provided for SCSI systems that require specific SCSI command responses, capacities, or sector sizes. A built-in debug monitor can be used to diagnose issues and update firmware.

## FEATURES INCLUDE

- Drop in replacement for obsolete 50-pin Narrow SCSI drives
- Solid State technology
- Standard 3.5" form factor
- Capacities currently up to 960GB
- Ultra SCSI transfer rates up to 20 MB/s
- Single Ended (SE) interface
- Commercial and extended temperature versions available
- Rugged version available for high shock & vibration environments
- Options for discrete controlled secure erase and drive destroy
- Compatible with CPUs with a SCSI SE controller
- SCSI termination can be enabled within unit
- No additional software required
- SCSI ID selection 0 – 7

# Security Options

## ERASE/DESTROY OPTIONS INVOKED BY COMMAND OR BY DISCRETE INPUT

**Fast Erase** Sets all locations to set value

**NSA/CSS Manual 9-12 Erase** Erases all locations, including bad blocks, then sets all locations to 0x55, then internal verification is performed reading 1% of capacity confirming data pattern

**RCC-TG IRIG 106-07 Chapter 10 Erase** Erases all locations, including bad blocks, then sets all locations to 0x55, then sets all locations to 0xAA, and finally erased

**Drive Destroy** Performs erase of all NAND flash including internal SSD firmware, file system, and tables which makes the drive unusable and unreadable

# Ordering Information

**RRT-35SFS-SN** - **SLC** - **120GB** - **SE1** - **UR** - **X** - **R** - **SECTORSIZE1024**

## Requirements

**NAND FLASH Type**  
SLC = Single Level Cell  
MLC = Multi Level Cell

**Capacity**  
Any capacity up to 960GB

## Options May be left blank

**Security Type**  
FE = Fast Erase,  
SE1 = NSA/CSS Manual 9-12 Erase  
SE2 = RCC-TG IRIG 106-07 Chapter 10 Erase  
DD = Drive Destroy

**Conformal Coating**  
UR = polyurethane  
AR = acrylic

**Extended Temperature Range**  
X = -40°C to 85°C

**Shock/Vibration**  
R = Rugged version with extended shock/vibration specifications

**Sector Size** (512 byte default sector size)  
256, 768, 1024, or any value

Example: RRT-35SFS-SN-SLC-512MB-SECTORSIZE768

Example: RRT-35SFS-SN-SLC-120GB-SE1-UR-X-R

Example: RRT-35SFS-SN-MLC- 4.3GB

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# 3.5" SCSI 50-pin Narrow SSD Specifications

Performance				
Version	SLC	MLC	Secure Erase	Drive Destroy
Capacities (1)	Up to 240GB	Up to 960GB	Up to 480GB	Up to 240GB
NAND FLASH Type	SLC	MLC	SLC	SLC
Interface	Narrow 8-bit Single Ended (SE) Ultra SCSI, SCSI2, SCSI1			
Sustained Throughput Read/Write	19 MB/s			
Sector Size	512 native, custom sector sizes available			
Reliability				
MTBF-Drive (in hours)	2 million	1 million	1.24 million	1 million
MTBF-Drive Carrier (2)	3 million hours			
Endurance (100GB SSD) Total Bytes Written	350TB	70TB	350TB	350TB
Power				
Voltage	+5V +/- 5%			
Watts-idle	3W			
Watts-active	4W max			
Environmental				
Temperature operating	0° to 70°C			
Temperature storage	-40° to 85°C			
Extended Temperature operating (3)	-40° to 85°C			
Extended Temperature storage	-40° to 85°C		-50° to 95°C	
Relative Humidity (4)	5% to 95%			
Altitude (5)	80,000 ft (24,000 meters)			
Shock (6)	50g 11 millisecond			
Shock - Rugged (6)	1500g 0.5 millisecond			
Vibration	12.0 Grms 20 Hz to 2000 Hz			
Vibration - Rugged (7)	16.3 Grms 20 Hz to 2000 Hz			
Physical				
Form Factor	3.5" drive			
Weight	15 oz. max (420g)			
Dimensions (W x L x H)	4.0" x 5.75" x 1.0" (101.6mm x 146.1mm x 25.4mm)			
(1) Larger capacities available as new COTS 2.5" drives released (2) Telcordia SR-322, Issue 3, operating temp (40° C), electrical stress (50%), environmental factor (1.0) (3) Thermal qualification per MIL-STD-810F, Method 501 Procedure II, and MIL-STD-810F, Method 502, Procedure II (4) Relative Humidity qualification per MIL-STD-810F, Method 507 (5) Altitude qualification per MIL-STD-810F, Method 500, , Procedure II (6) Shock qualification per MIL-STD-810F, Method 516, Procedure I, terminal peak saw tooth (7) Vibration qualification per MIL-STD-810F, Method 514, Procedure I				

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