# 0.2 Amp 70 Volt DC Solid State Relay

## **Features**

- Current Limiting
- Optical Isolation 500V min
- Thermal Shutdown
- Compact Hermetic Package
- Custom Option Available.
- Available to Military Y Level

# **Applications**

- Aircraft Power Switching
- Process Controls
- Automatic Test Equipment
- Automotive Applications

# **Description**

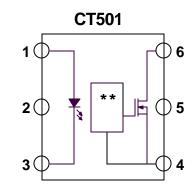
The CT-501 is a single pole DC solid-state relay featuring current limiting and thermal shutdown. The input is a single LED, typical control current is 20 mA.

The main intended application is in 28V aircraft systems. When used in this application the relay can withstand a direct short on the output. The thermal shutdown will then keep the output in the off state until the temperature drops. The output will then attempt to turn back on. There is no need to re-cycle the input.

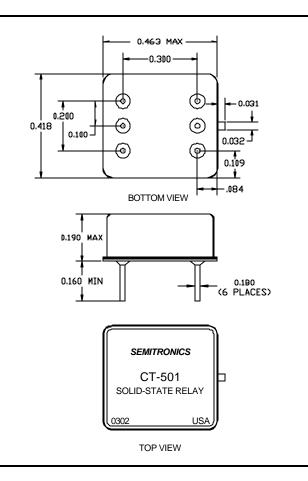
The relay is packaged in a 6 pin hermetic package, with a 4 pin half size crystal can package as an option.

Additional options of ON resistance and output voltage are also available as well as commercial grade relays. Please consult our sales department for further information regarding specific requirements.

Full custom solid-state relay design services are also available.



\*\* Current Limiting and Thermal Shutdown



Absolute Maximum Ratings								
Parameter		Lir	Limits					
		Min	Max					
LED Forward Current	Steady State		50	mA				
LED Forward Current	Peak 10% Duty Cycle		75	mA				
LED Reverse Voltage	Reverse Current -10μA		5	V				
Output Voltage	Open Circuit		70	V				
Output Current	I <sub>LED</sub> = 20 mA		0.3	Α				
Operating Temperature		-55	+100	°C				
Storage Temperature		-55	+150	°C				
Isolation Voltage		500		Vrms				

Electrical Characteristics @25°C unless otherwise specified									
Parameter	Symbol	Test Conditions	Limits		Units				
			Min	Max					
LED Forward Voltage	Vf <sub>LED</sub>	I <sub>LED</sub> = 20 mA	1.1		V				
LED Reverse Current	Ir <sub>LED</sub>	Vr = -5 V	-5.0		μΑ				
Minimum LED Current	I min	Rated Load	10.0		mA				
Off State Leakage	Voff	$I_{LED} = 10 \mu A, Vo = 60 V$		1.0	μΑ				
On Resistance	Ron	I <sub>LED</sub> = 20 mA, lo = 200 mA		2.0	Ω				
Turn-on Time	Ton	I <sub>LED</sub> = 20 mA, Rated Load		1.0	mS				
Turn-off Time	Toff	$I_{LED} = 0 \text{ mA}$		2.0	mS				
Isolation Resistance	Riso	Input to Output 500 Vrms	1000		MΩ				
Power Dissipation	Pd			1.0	W				
Input to Output Capacitance	Cio	1 kHz, 1 Vrms		5.0	pf				

## **Ordering Information:**

### CT501

Semitronics Standard Testing and Screening for Industrial Applications.

### CT501M

Testing and Screening for Military Applications. See MIL-PRF-28750D.