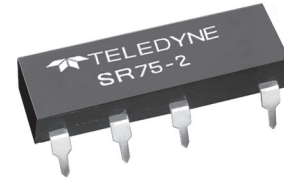


| Part Number* | Relay Description |
|--------------|---|
| SR75-2 | Solid-State Relay with Terminals for Through-Hole Mount |
| SR75-2S | Solid-State Relay with Terminals for Surface Mount |

* A 'W' or 'T' suffix denoting the S Teledyne reliability screening level, must be added to the part number.



ELECTRICAL SPECIFICATIONS

(-55°C TO 105°C, Ambient Temperature Unless Otherwise Specified)

INPUT (CONTROL) SPECIFICATIONS

| | Min | Max | Units |
|--------------------------------------|-----|-------|-------|
| Control Voltage Range (See Note 6) | 3.8 | 32.0 | Vdc |
| Input Current @ 5 Vdc (See Figure 1) | | 11.0 | mA |
| Must Turn-On Voltage (See Note 7) | 3.8 | | Vdc |
| Must Turn-Off Voltage | | 1.5 | Vdc |
| Reverse Voltage Protection | | -32.0 | Vdc |

OUTPUT (LOAD) SPECIFICATION

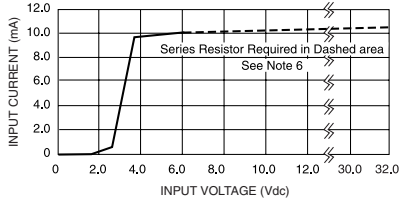
| | Min | Max | Units |
|---|-----------------|-------|-------|
| Load Voltage Rating | | 300 | Vdc |
| Transient Blocking Voltage | | 320 | Vdc |
| Output Current Rating (See Figure 2) | | 0.75 | Adc |
| On Resistance (See Figure 3) | | 2.0 | Ohm |
| Leakage Current at Rated Voltage | | 100 | µA |
| Turn-On Time | | 4.5 | ms |
| Turn-Off Time | | 0.5 | ms |
| dV/dt @ 60V (See Note 8) | | 100 | V/µs |
| Electrical System Spike (See Note 8) | | ± 600 | Vpk |
| Output Capacitance @ 100 KHz, 25 Vdc (See Note 8) | 250 | | pF |
| Input to Output Capacitance at 1 KHz (See Note 8) | | 5 | pF |
| Dielectric Strength (See Note 8) | 1000 | | Vrms |
| Insulation Resistance (See Note 8) | 10 ⁸ | | Ohm |
| Junction Temperature | | 130 | °C |
| Thermal Resistance (Junction to Ambient) | | 90 | °C/W |
| Solderability (10 sec) | | 260 | °C |

FEATURES/BENEFITS

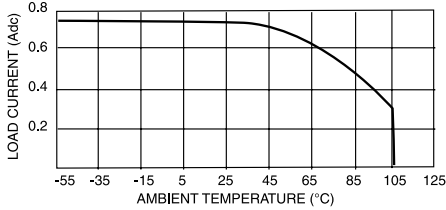
- Short-Circuit Protected: Prevents damage to system components, assemblies and system wiring. Can be connected to protect AC or DC loads (AC with diode bridge)
- Optical Isolation: Isolates control circuits from load transients
Eliminates ground loops and signal ground noise
- Low Off-State Leakage: For high off-state impedance
- Switches High Voltages: To 300 Vdc
- Switches High Currents: To 0.75 Adc
- High Noise Immunity: Control signals isolated from switching noise
- High Dielectric Strength: For safety and for protection of control and signal level circuits

DESCRIPTION

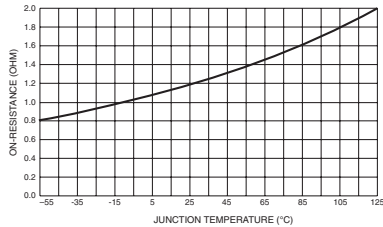
The SR75-2 solid-state relay utilizes a power FET switch that is protected against overload and short-circuit currents. The short-circuit protection feature not only provides protection should a short or overload occur while the relay is on, but will also provide protection should the relay be switched into a short. Once the protection trips the relay, it will remain off until reset by cycling the input control line. Using the SR75-2 to switch power sources and loads can prevent fires, damage to system assemblies and system wiring. The power FET output offers low "ON" resistance and can switch loads in either the high or the low side of the power line. The SR75-2 is packaged in a 16-pin DIP package with either surface-mount or through-hole mounting available.



CONTROL CURRENT VS VOLTAGE
FIGURE 1

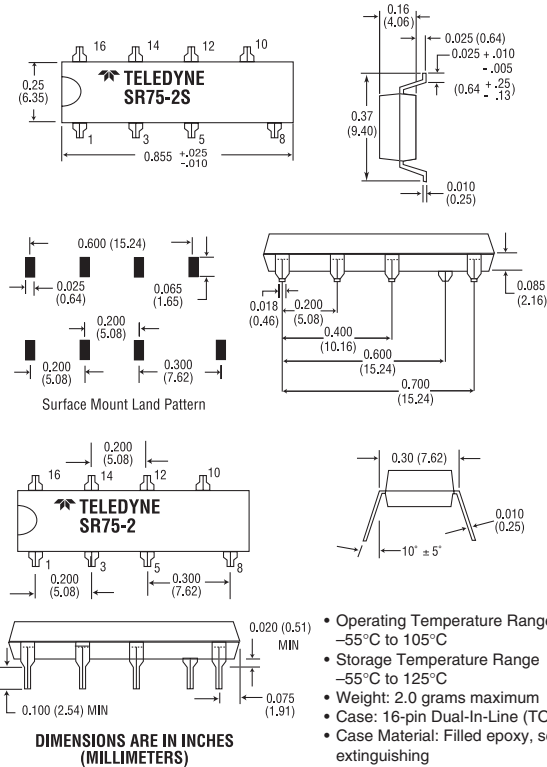


LOAD CURRENT DERATING CURVE
FIGURE 2 (SEE NOTE 5)

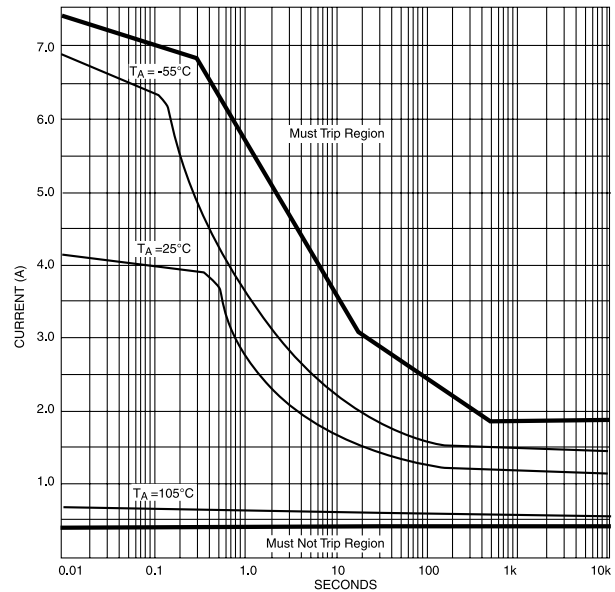


TYPICAL ON RESISTANCE VS T_J
FIGURE 3

MECHANICAL SPECIFICATIONS

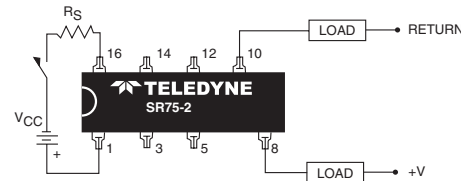


DIMENSIONS ARE IN INCHES (MILLIMETERS)

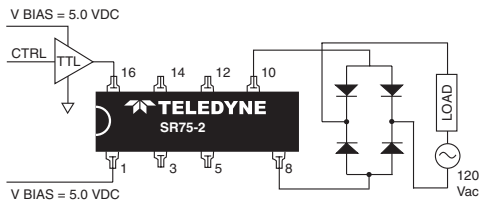


TRIP CURRENT VS TIME
FIGURE 4

WIRING CONFIGURATIONS



SHORT-CIRCUIT PROTECTED DC LOADS
(SEE NOTES 3, 4 AND 6, FIGURE 3 AND 4)



SHORT-CIRCUIT PROTECTED AC LOADS
(SEE NOTE 6)

NOTES:

1. The input voltage is 5.0 Vdc for all tests unless otherwise specified.
2. Reversing the output polarity when the relay is in overload or is sustaining a short circuit may cause permanent damage.
3. Inductive loads must be diode suppressed.
4. Loads may be switched in either the high side or the low side of the power source.
5. Continuous load current rating is determined with relay mounted on a printed circuit card.
6. For input voltage greater than 6.0 Vdc a series resistor must be used to limit the power dissipation on the input of the relay. The resistor value should be selected using the following equation:
 $R = (V_{BIAS} - 6 \text{ volts})/11\text{mA}$
7. Input transitions are to be less than 1 msec.
8. Tested at 25°C ambient.

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