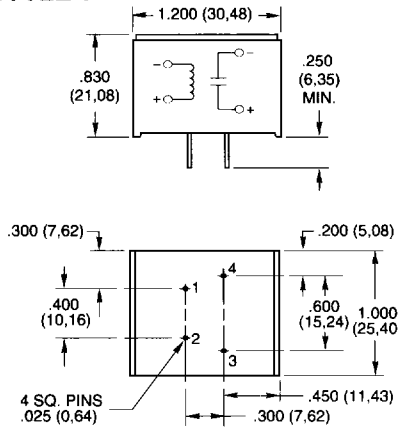


**FEATURES**

- DC Load Switching in the Popular Package Outlines and Terminations
- Optically Isolated
- PC Mount For Loads Up to 3 Amps; Require No Additional Heat Sink
- Panel Mount; Loads Up to 5 Amps
- Lifetime Warranty

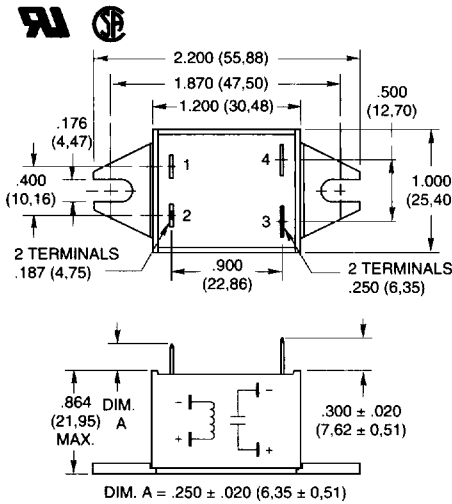
**STYLE F**



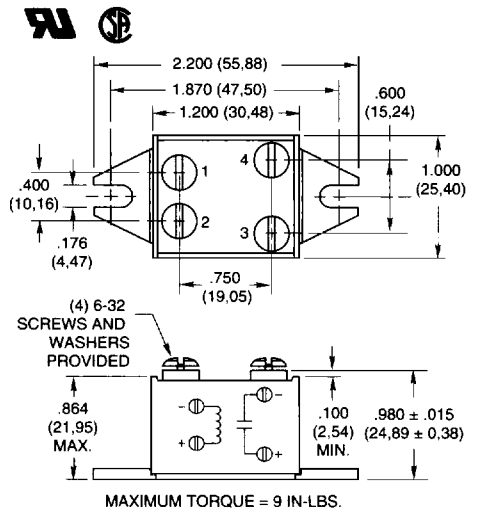
**STYLE V**



**STYLE N**



**STYLE S**

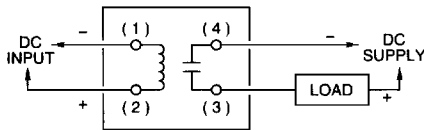


Dimensions are shown in inches (and millimeters). All tolerances are ±0.010 (0,25) unless otherwise specified.

For photographic representations of product, see equivalent DC/AC relays, pages I-4 to I-9.

NOTE: STYLE S IS NOT INTENDED FOR PC BOARD MOUNTING. SCREWING TERMINAL TO A PC BOARD MAY DAMAGE RELAY. CONSULT GRAYHILL.

**WIRING**

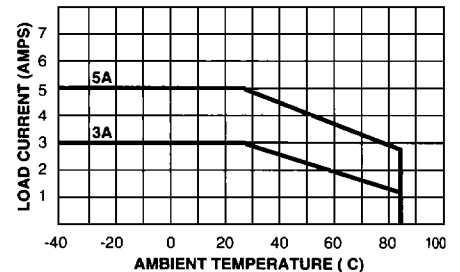


CAUTION: POLARITY REVERSAL CAN PERMANENTLY DAMAGE RELAY

In Figure 1 the chart indicates continuous current to limit the junction temperatures to 115°C. Information is based on steady state heat transfer in a 2 cubic foot sealed enclosure.

For 5 Amp load current, information is based on the use of a 12" x 12" x 1/8" aluminum heat sink (with silicon grease) in a 2 cubic foot sealed enclosure.

**Figure 1: Maximum Continuous Current vs. Ambient Temperature**



**SPECIFICATIONS**

<p><b>Output Circuit, Styles V and F</b>  <b>Load Voltage Range:</b> 3 to 60 Vdc  <b>Load Current Range:</b> .020 to 3 Amps. See Figure 1 for derating.  <b>Maximum Surge Current:</b> 5 Amps for 1 second  <b>Maximum Off State Leakage Current:</b> 10 microamperes  <b>Maximum On State Voltage Drop:</b> 1.2 Vdc  <b>Maximum Clamping Voltage:</b> 80 Vdc  <b>Transient Power Dissipation:</b> 400 Watts at 1 mS, non-recurring  <b>Typical Power Dissipation:</b> 1 Watt/Amp  <b>Thermal Resistance (Junction to Ambient)</b>                  Style V: 30°C/Watt typical                  Styles F: 25°C/Watt typical  <b>Turn-On Time:</b> 75 µsec maximum  <b>Turn-Off Time:</b> 500 µsec maximum</p> <p><b>Output Circuit, Styles S and N</b>  <b>Load Voltage Range:</b> 3 to 60 Vdc  <b>Maximum Load Current:</b> 5 Amps. See Figure 1 for derating.  <b>Maximum Surge Current:</b> 7 Amps for 1 second  <b>Maximum Off State Leakage Current:</b> 10 microamperes  <b>Maximum On State Voltage Drop:</b> 1.85 Vdc</p>	<p><b>Maximum Clamping Voltage:</b> 80 Vdc  <b>Transient Power Dissipation:</b> 400 Watts at 1 mS, non-recurring  <b>Typical Power Dissipation:</b> 1.5 Watt/Amp  <b>Thermal Resistance (Junction to Case):</b> 8.5°C/Watt typical  <b>Turn-On Time:</b> 75 µsec maximum  <b>Turn-Off Time:</b> 500 µsec maximum</p> <p><b>Input Circuit</b>  <b>Control Voltage</b>  <b>Range (Vdc):</b>                    3-15     9-30  <b>Control Current</b>  <b>Range (mA):</b>                    5-40     5-17  <b>Ave. Input</b>  <b>Impedance (Ohms):</b>            400     2000  <b>Min. Drop Out Voltage (Vdc):</b>            1     4  <b>Max. Reverse Control Voltage (Vdc):</b>            5     5</p> <p><b>General Characteristics</b>  <b>Insulation Resistance (Input to Output; Input or Output to Case):</b> 10<sup>10</sup> Ohms min.  <b>Dielectric Strength (Input to Output or Case):</b> 2500 Vrms minimum</p>	<p><b>Capacitance (Input to Output):</b> 10 pF typical  <b>Vibration:</b> 20 g's peak or .06" double amplitude 10-2000 Hz per MIL-STD-202, Method 204, Condition D  <b>Mechanical Shock:</b> 1500 g's 0.5 mS half-sine per MIL-STD-202, Method 213, Condition F  <b>Operating Temperature Range:</b> -40° to +85°C  <b>Storage Temperature Range:</b> -40°C to +125°C</p> <p><b>Materials and Finishes</b>  <b>Screws (Style S):</b> Steel, Tin plated  <b>Terminals (Styles S and N):</b> Brass, Tin plated  <b>PC Terminals (Styles F and V):</b> Copper wire, Tin dipped  <b>Case:</b> Solvent resistant thermoplastic, Polyester, meets UL94V-O  <b>Potting:</b> High thermal conductive epoxy  <b>Heat Sink (Styles F, N and S):</b> Aluminum</p> <p><b>UL Recognition and CSA Certification</b>                  UL file number E58632 and CSA file number LR38763 apply only to part numbers 70S2-01-A-05-S, 70S2-02-A-05-S, and 70S2-01-A-05-N.</p>
<p>All specifications apply over the operating temperature range.</p>		

**ORDERING INFORMATION**

Load Voltage Vdc	Max. Load Current	Control Voltage Vdc	Grayhill Part Number
<b>SINGLE IN-LINE PACKAGE, STYLE V</b>			
3-60	3	3-15	70S2-01-A-03-V
3-60	3	9-30	70S2-02-A-03-V
<b>MINI CUBE RELAY, PC MOUNT, STYLE F</b>			
3-60	3	3-15	70S2-01-A-03-F
3-60	3	9-30	70S2-02-A-03-F
<b>MINI PUCK RELAY, TAB STYLE N</b>			
3-60	5	3-15	70S2-01-A-05-N
<b>MINI PUCK RELAY, SCREW STYLE S</b>			
3-60	5	3-15	70S2-01-A-05-S
3-60	5	9-30	70S2-02-A-05-S

Available from your local Grayhill Electronic and Industrial Distributors. For prices and discounts, contact a local Sales Office, an authorized local Distributor, or Grayhill.

These styles are also available in DC to AC solid state relays. For selection, see page I-4.