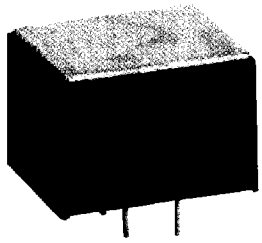
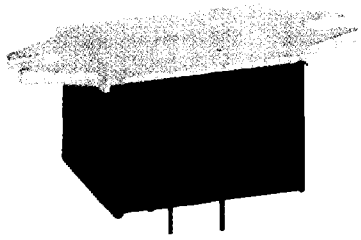
FEATURES

- Mini Cube Relays With Extended Current Ratings
- PC Mount; Optically Isolated
- Integral Heat Sink Accommodates Panel Mount or Add-On Heat Sink
- Switches Up to 4, 6 or 10 Amp Loads
- UL Recognized and CSA Certified
- Lifetime Warranty

STYLE F

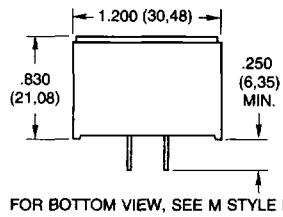


STYLE M



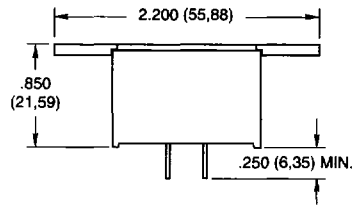
DIMENSIONS ARE SHOWN IN INCHES (AND MILLIMETERS). ALL TOLERANCES ±.010 (0,25) UNLESS OTHERWISE SPECIFIED

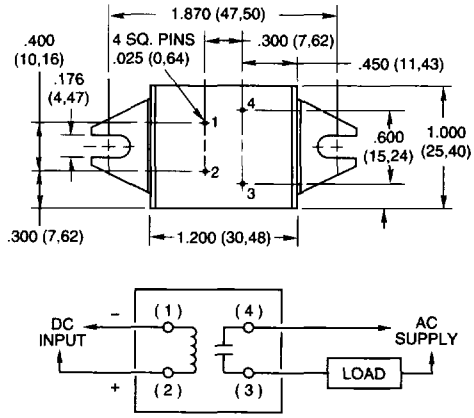
Style F



FOR BOTTOM VIEW, SEE M STYLE BELOW

Style M





In Figure 1 the chart indicates continuous current to limit the junction temperatures to 100°C. Style M information is based on the use of a 12" x 12" x 1/8" aluminum heatsink (with silicon grease). All information assumes a 2 cubic foot sealed enclosure.

In Figure 2 the information is based on a supply frequency of 60 Hertz sinusoidal and a resistive or inductive load. Application of maximum surge current may not be repeated until the relay temperature has returned to its steady state value.

Figure 1: Maximum Continuous Current vs. Ambient Temperature

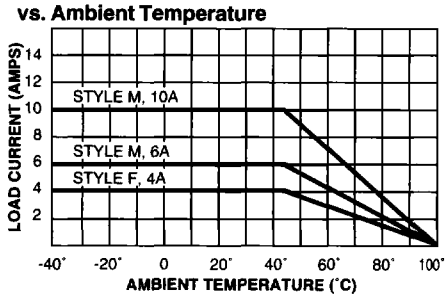
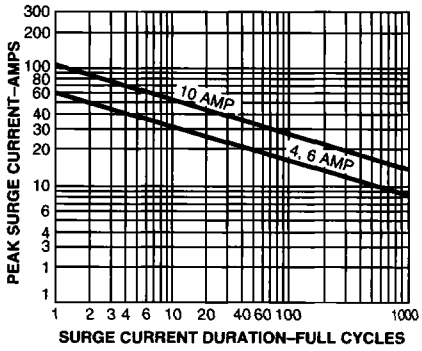


Figure 2: Maximum Peak Surge Current vs. Surge Duration



Solid State Relays

SPECIFICATIONS

Output Circuit

Nominal Line Voltage (Vac):	**120**	**240**	
Load Voltage Range (Vac):	24-140	24-280	
Minimum Peak Blocking Voltage (Volts):	400	600	
Maximum Zero Voltage Offset (Volts):	8	18	
Max. Off State Leakage Current 60 Hz (mA rms):	6	6	
Max Load Current (Amps rms):	**4**	**6**	**10**
Load Current Range (Amps rms): See Figure 1.	.075-4	.075-6	.075-10
Max. 1 Cycle Surge Current (Amps Peak): See Figure 2.	60	60	110
Typical Power Dissipation (Watts/Amp):	1.1	1.2	1.2
Thermal Resistance Junction to Ambient (°C/Watt)			
Style F:	15		
Style M:		4.2	3.3
Minimum I^2t For Fusing (Amp^2Sec at 8.3 mS):	26.5	26.5	50.0

Static dV/dT: 3000 V/microsecond typical, measured under open circuit conditions. Not to exceed peak blocking voltage.

Frequency Range: 25 to 70 Hz

On State Voltage Drop: 1.5V peak maximum

Turn-On Time (60 Hz): 8.3 mS maximum

Turn-Off Time (60 Hz): 8.3 mS maximum

Input Circuit

Control Voltage Range (Vdc):	**3-30**	**6-30**
Control Current Range (mA)*:	7.0-16.0	6.0-10.0
Ave. Input Impedance (Ohms)*:	See below	
Min. Drop Out Voltage (Vdc):	1.0	1.0
Max. Reverse Control Voltage (Vdc):	5	5

General Characteristics

Insulation Resistance (Input to Output; Input or Output to Case): 10^9 ohms minimum

Dielectric Strength:

(Input to Output): 3000 Vrms min.

(Input or Output to Case): 3000 Vrms min.

Capacitance (Input to Output): 6 pF typical

Vibration: 20 g's peak or .06" double amplitude 10-2000 Hz per MIL-STD-202, Method 204, Condition D

Mechanical Shock: 1500 g's 0.5 mS half-sine per MIL-STD-202, Method 213, Condition F

Operating Temperature Range: -40° to +100°C

Storage Temperature Range: -40°C to +125°C

Materials and Finishes

PC Terminals: Copper wire, Lead-Tin plated

Case: Solvent resistant thermoplastic, Polyester, meets UL94V-0

Potting: High thermal conductive epoxy

Heat Sink: Aluminum

UL Recognition and CSA Certification

UL file number E58632 and CSA file number LR38763 apply to all relays shown here.

All specifications apply over the operation temperature range.

* The standard F and M styles have circuits on the input which regulate the control current at high voltage levels. Typical Control Current and Input Impedance values are:

Modules with 3-30 Vdc Input			
@ 3 Vdc Typical Input Current	7 ma	Average Input Impedance	428Ω
@ 5 Vdc Typical Input Current	10 ma	Average Input Impedance	500Ω
@ 24 Vdc Typical Input Current	13.5 ma	Average Input Impedance	1777Ω
Modules with 6-30 Vdc Input			
@ 6 Vdc Typical Input Current	6.6 MA	Average Input Impedance	909Ω
@ 12 Vdc Typical Input Current	7.4 MA	Average Input Impedance	1620Ω
@ 24 Vdc Typical Input Current	8.7 MA	Average Input Impedance	2750Ω

ORDERING INFORMATION

Nom. Load Vac	Max. Load, Amps	Control Voltage Vdc	Grayhill Part Number
STYLE F			
120	4A	3-30	**70S2-04-B-04-F**
120	4A	6-30	**70S2-05-B-04-F**
240	4A	3-30	**70S2-04-C-04-F**
240	4A	6-30	**70S2-05-C-04-F**
STYLE M			
120	6A	3-30	**70S2-04-B-06-M**
120	6A	6-30	**70S2-05-B-06-M**
120	10A	3-30	**70S2-04-B-10-M**
120	10A	6-30	**70S2-05-B-10-M**
240	6A	3-30	**70S2-04-C-06-M**
240	6A	6-30	**70S2-05-C-06-M**
240	10A	3-30	**70S2-04-C-10-M**
240	10A	6-30	**70S2-05-C-10-M**

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