

DC Input / AC Output Compact Solid State Relay



FEATURES

- 10 A, 15 A, 20 A or 25 A Output
- Compact Package
1.520" x 1.126" (38.6mm x 28.6mm) Footprint
- DC Input: 3-32 VDC
- Panel Mount
- Built in RC Snubber Standard
- 4,000 VAC Opto-Isolation Between Input and Output
- Encapsulated, Thermally Conductive Epoxy
- RoHS Compliant

CAUS E93379

INPUT PARAMETERS (Ta = 35°C)

| | |
|--------------------------------|------------|
| Control Voltage Range | 3 - 32 VDC |
| Must Turn-On Voltage | 3 VDC |
| Must Turn-Off Voltage | 1 VDC |
| Max. Input Current | 25 mA (DC) |
| Max Reverse Protection Voltage | - 32 VDC |

OUTPUT PARAMETERS (Ta = 35°C)

| | | | | |
|---|--------------------------------|----------|----------|----------|
| Load Voltage Range | 240 A: 48 - 280 VAC | | | |
| | 380 A: 48—440 VAC | | | |
| Max. Transient Voltage | 240A: 600 Vpk | | | |
| | 380 A: 800 Vpk | | | |
| Load Current | 10 | 15 | 20 | 25 |
| Load Current Range | 0.1 - 10 | 0.1 - 15 | 0.1 - 20 | 0.1 - 25 |
| Max. I ² t (10 ms, A ² s) | 78 | 144 | 312 | 312 |
| Max. Surge Current (10 ms) | 100 Apk | 150 Apk | 200 Apk | 250 Apk |
| Max. Off-State Leakage Current | 5 mA | | | |
| Max. On-State Voltage Drop | 1.5 VRMS | | | |
| Max. Turn-On Time | Zero –Cross: 1/2 Cycles + 1 ms | | | |
| | Random: 1 ms | | | |
| Max. Turn-Off Time | 1/2 Cycles + 1 ms | | | |
| Min. Off-State dv/dt | 200 V/us | | | |

CHARACTERISTICS

| | |
|-----------------------|--|
| Dielectric Strength | 2,500 VAC, 50 Hz/60 Hz, 1 min, Input to Base |
| | 2,500 VAC, 50 Hz/60 Hz, 1 min, Output to Base |
| | 4,000 VAC, 50 Hz/60 Hz, 1 min, Input to Output |
| Insulation Resistance | 1,000 MΩ at 500 VDC |
| Operating Temperature | - 30°C to 80°C |
| Storage Temperature | - 30°C to 100°C |
| Weight | 35 g |

ORDERING INFORMATION

| | | | | | | | |
|------------------|--|----|-------|-----|---|---|---|
| Example: | PCS53 | -D | -240A | -10 | Z | L | Q |
| Model: | PCS53 | | | | | | |
| Control Voltage: | D : 3-32 VDC | | | | | | |
| Load Voltage: | 240A : 48-280 VAC; 380A : 48-440 VAC | | | | | | |
| Load Current: | 10 : 10 A; 15 : 15 A; 20 : 20 A; 25 : 25 A | | | | | | |
| Switching Type: | Z : Zero Crossing; R : Random Turn-On | | | | | | |
| RC Snubber: | Nil : Built In | | | | | | |
| Status LED : | Nil : Not Included; L : Indicator LED | | | | | | |
| Terminal Type: | Nil : Screw Terminal; Q : Quick Connect (1/4" Control, 3/8" Power) | | | | | | |

Box Quantity: 100; Inner Box: 2

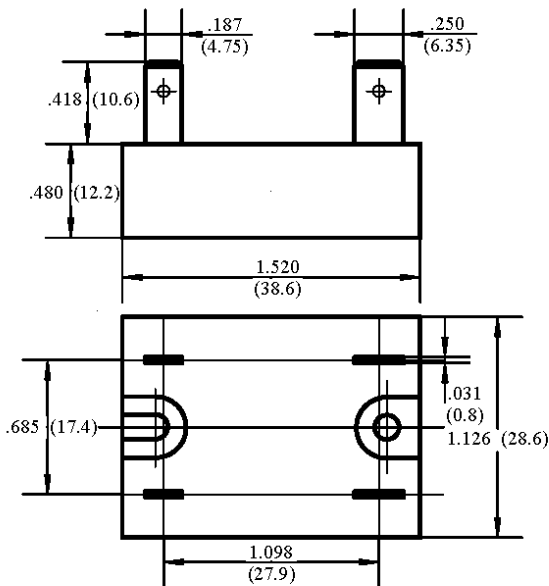
For Accessories and Heat Sink see page 3

PRECAUTIONS

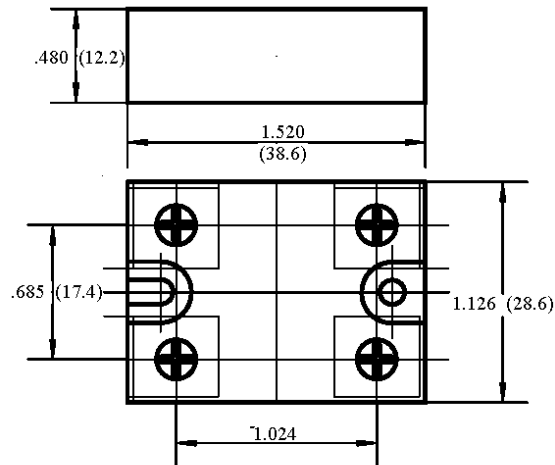
- 1) When choosing a Solid State Relay (SSR), note the actual load current and ambient temperature and reference the Characteristic Curves below.
- 2) SSRs require a adequate heat sinking or other effective cooling measures.
- 3) With ambient temperature above 25°C refer to the curve of Max. Load Current vs Ambient Temperature for load current derating.
- 4) Apply heat-conducting silicon grease or a thermal transfer pad on the space between SSR and heat sink and screw the SCR firmly in to the heat sink to avoid damage from overheating.
- 5) Tighten the SSR terminal screws properly. We recommended screw installation torque as follows :
 M4 screw mounting torque range is (0.98-1.37)N • m,
 M3 screw mounting torque range is (0.56-0.98)N • m.
 Lose screws will damage the SSR with heat generated from connections. Also, excessive screw torque may damage relays internal components.
- 6) It is recommended to use a heat sink matched to the Current Load. With any heat sink test that the SSR base temperature does not exceed 65°C.
- 7) When using the PCS53 relay with an inductive load, it is suggested to select random turn-on (i.e., a model with "R" letter).
- 8) The PCS53 is not suitable for capacitive loads; if you must then do not choose products with varistor protection (i.e., a model with "Y" letter).
- 9) Listed parameters are based on resistive loads. Do not use the relay beyond the described current, temperature, load or voltage limits as described in this data sheet.

DIMENSIONS (mm)

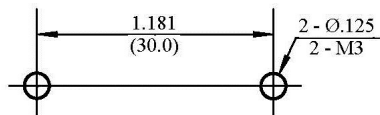
QUICK CONNECT



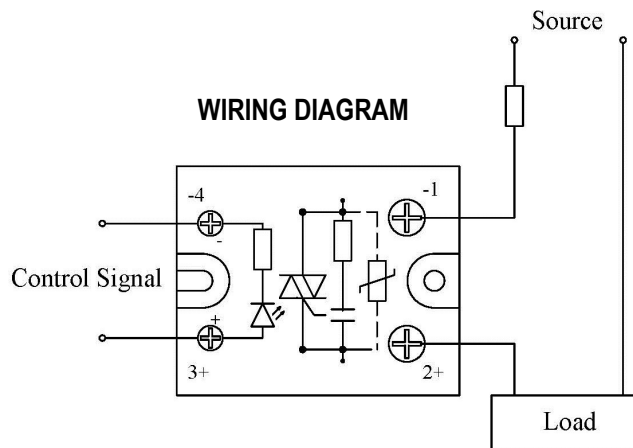
SCREW TERMINAL



MOUNTING LAYOUT



WIRING DIAGRAM



ACCESSORIES

| | |
|-------------------|-------------------------------------|
| Heat Transfer Pad | HTP50 |
| Protective Cover | SSR50 |
| Heat Sinks | PCH-I-50 for 10 Amp Applications |
| | PCH-H-110 for 15-25 Amp Application |

ACCESSORIES SOLD SEPERATELY

CHARACTERISTIC CURVES

