

1.5 Amp Solid State Relay

PCS20



FEATURES

- Load Current 1.2 or 1.5 Amp
- Load Output Range 48-280VAC
- DC Input: 5 V, 12 V or 24 V
- SIL Printed Circuit Board Mount
- 2,000 VAC Opto-Isolation Between Input and Output
- Zero-Cross or Random Turn-On
- Optional RC Snubber
- RoHS Compliant

INPUT PARAMETERS (Ta = 25°C) cULus E93379

Control Voltage Range	5	4 - 6 VDC
	12	9.6 - 14.4 VDC
	24	19.2 - 28.8 VDC
Must Operate Voltage	5	4 VDC
	12	9.6 VDC
	24	1.0 VDC
Must Release Voltage	1.0 VDC	
Maximum Input Current	20 mA	
Input Resistance	5	270 Ω
	12	750 Ω
	24	1,640 Ω

OUTPUT PARAMETERS (Ta = 25°C)

Load Voltage Range	48 VAC to 280 VAC	
Load Current Range	0.1 A to 1.5 A	
Max. Surge Current (10ms)	25 Apk	
Max. Leakage Current	1.5 mA	
Max. On-State Voltage Drop	1.5 Vrms	
Max. Turn-On Time	Zero Cross	1/2 Cycle + 1 ms
	Random	1 ms
Max. Turn-Off Time	1/2 Cycle + 1 ms	
Max. Transient Overvoltage	600 Vpk	
Off-State dv/dt	200 V/us	
Max Zero-Cross Overvoltage	± 15 V	
Min. Power Factor	0.5	
Max. I ² t for Fusing (10 ms)	3.1 A ² s	

CHARACTERISTICS

Dielectric Strength (Input to Output)	2,000 VAC, 50 Hz/60 Hz, 1 min
Insulation Resistance	1,000 MΩ at 500 VDC
Vibration Resistance	10 Hz to 55 Hz 1.5 mm DA
Shock Resistance	980 m/s ²

CHARACTERISTICS Continued

Operating Temperature	- 30°C to 80°C
Storage Temperature	- 30°C to 100°C
Ambient Humidity	45% to 85% RH
Weight	3.5 g

ORDERING INFORMATION

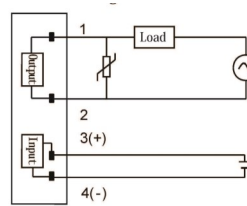
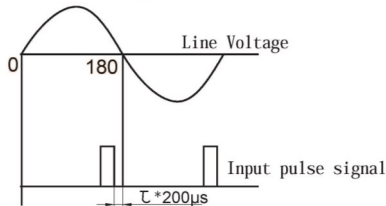
Example:	PCS20	-12D	-240A	-2	Z	T	-241
Model:	PCS20						
Control Voltage:	5D: 4 - 6VDC, 12D: 9.6 - 14.4 VDC, 24D: 19.2 - 28.8 VDC						
Load Voltage:	240A: 240VAC						
Load Current:	1.2: 1.2 Amp, 1.5: 1.5 Amp						
Switching Type:	Z: Zero Crossing, R: Random Turn-On						
RC Snubber:	Nil: Without RC Snubber, S*: With RC Snubber						
Pin Spacing:	Nil: 3-3-1mm, 241: 2-4-1mm						

Note: PCS20 with Snubber is not UL Recognized

Box Quantity: 5,000; Inner Box: 50

PRECAUTIONS

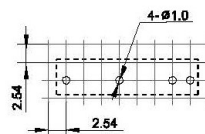
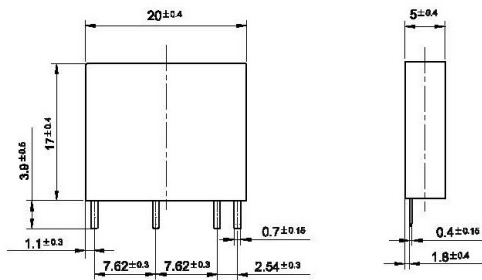
1. Maximum Soldering Temperatures: 260°C for a maximum of 10 seconds or 350°C for a maximum of 5 seconds.
2. The SSR case serves to dissipate heat. Install the relays so that they are adequately ventilated. If poor ventilation is unavoidable, the load current must be reduced. Please refer to the curve of "Max. Load current Vs. Ambient Temperature".
3. The input circuitry does not incorporate a circuit protecting the SSR from being damaged due to a reversed connection. Make sure that the polarity and the input and output are correct when connecting.
4. If the output transient voltage exceeds the nominal value a varistor should be mounted on the SSR output terminals in parallel to prevent a breakdown of the triac output junction. The result could be a permanent short of the output. The recommended varistor voltage 470V.
5. When using the relay in phase control applications, at a phase control angle close to 180 degrees the relay's input signal will turn off at the trailing edge of the AC sine wave. The phase delay must be limited to end 200us before AC zero cross. This assures that the relay has time to switch off. Shorter times may cause loss of control at the following half cycle.



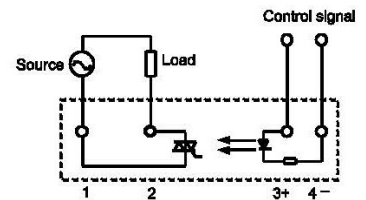
6. Please do not use the relay beyond the descriptions in the Data Sheet.

7. Terminal Arrangement

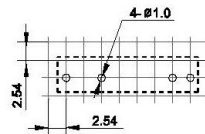
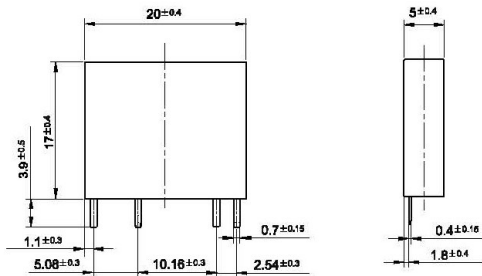
DIMENSIONS (mm/inches)



Wiring Diagram



(241): The type with different terminals layout



CHARACTERISTIC CURVES

