

# AC Output Solid State Relay

# PCS27-AC



## FEATURES

- 0.1 A to 5 A Output
- DC Input: 3 VDC; 4 VAC; 15 VAC
- PCB Mount
- Double SCR AC Output or Triac AC Output
- Photoelectric Isolation
- RoHS Compliant

## INPUT PARAMETERS (Ta = 25°C)

**UL** US E93397

Control Voltage Range	D	3 VDC - 32 VDC
	1D	4 VDC - 15 VDC
	2D	15 VDC - 32 VDC
Must Turn-On Voltage	D	3 VDC
	1D	5 VDC
	2D	15 VDC
Must Turn-Off Voltage		1.0 VDC
Max. Input Current	D	25 mA
	1D	40 mA
	2D	20 mA

## OUTPUT PARAMETERS (Ta = 25°C)

Rated Voltage	240 VAC	380 VAC	480 VAC
Load Voltage Range VAC	48 - 280	48 - 440	48 - 530
Max. Transient Overvoltage	600 Vpk	800 Vpk	1200 Vpk
Load Current Range	0.1 A to 5 A		
Max. Surge Current (10 ms)	Triac Output: 120 Apk		
	SCR Output: 250 Apk		
Max. On-State Voltage Drop	1.5 VRMS		
Max. Off-State Leakage Current	1.5 mA		
Min. Off-State dv/dt	200 V/us		
Max. Turn-On Time	Zero Cross: 1/2 Cycles + 1 ms;		
	Random: 1 ms		
Max. Turn-Off Time	1/2 Cycles + 1 ms		
Min. Power Factor	0.5		
Max. I <sup>2</sup> t (10 ms)	Triac Output: 78 A <sup>2</sup> s		
	SCR Output: 310 A <sup>2</sup> s		

## CHARACTERISTICS

Dielectric Strength	4,000 VAC, 50 Hz/60 Hz, 1 min. (Input to Output)
Insulation Resistance	1,000 MΩ at 500 VDC
Shock Resistance	980 m/s <sup>2</sup>
Vibration Resistance	10 Hz - 55 Hz, 1.5 mm DA

Operating Temperature	- 30°C to 80°C
Storage Temperature	- 30°C to 100°C
Relative Humidity	45% - 85%
Weight	Approximately 70 g

## ORDERING INFORMATION

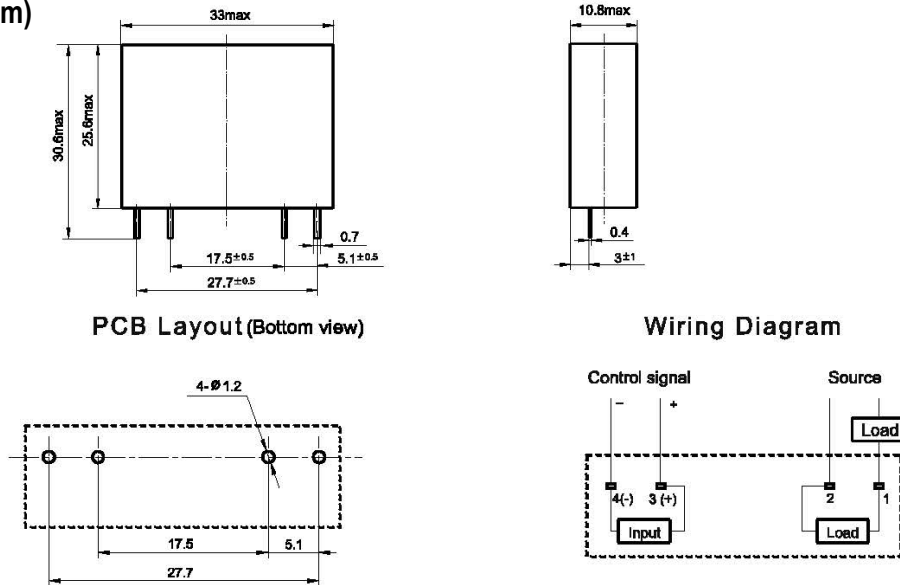
Example:	PCS41	-1D	-240A	-2	Z
Model:	<b>PCS41</b>				
Control Voltage:	D: 4-6 VDC 1D: 9.6 - 14.4 VDC, 2D: 19.2 - 28.8 VDC				
Load Voltage:	240A: 48 VAC to 280VAC; 380A: 48 VAC to 440 VAC; 480A: 48 VAC to 530 VAC				
Load Current:	3: 3 Amp; 4: 4 Amp; 5: 5 Amp				
Switching Type:	Z: Zero Crossing, R: Random Turn-On				

Box Quantity: XXX; Inner Box YYY

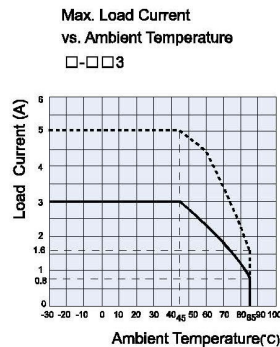
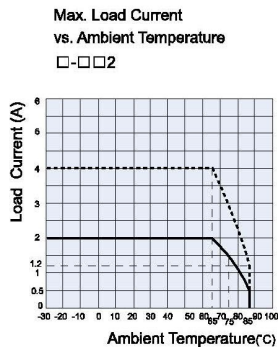
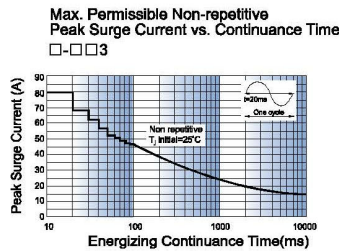
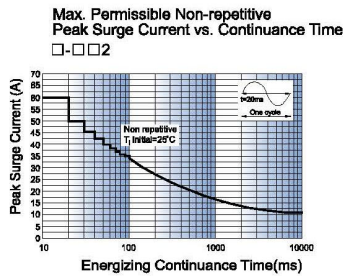
**PRECAUTIONS**

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.

**DIMENSIONS (mm)**



**CHARACTERISTIC CURVES**



----- Frequency is 1Hz to 30Hz and duty is 50% ——— Duty is 100%.