DC Voltage Solid State Relay — PCS33

FEATURES

- Load Current 10A to 80A, MOSFET Output
- Load Output Range 0~600VDC
- DC Input 3~32VDC
- Panel Mount
- Dielectric Strength of 2500 VAC

RoHS COMPLIANT

INPUT PARAMETERS (Ta = 30°C)

Control Voltage Range	4 ~ 32VDC with LED
Must Operate Voltage	4VDC with LED
Must Release Voltage	1.0VDC
Max Input Current	28mA @ 32VDC
Max Reverse Protection Voltage	-32 VDC

OUTPUT CURRENT PARAMETERS (Ta = 30°C)

	10A	40A			50A	80A	
Load Current (200mA min)**	400V	50V	100V	200V	600V	50V	100V
Max Surge Current (10 ms, Apk)	40 Apk	100 Apk	160 Apk	130 Apk	150 Apk	200 Apk	240 Apk
Thermal Resistance Junction to Case (Rjc, °C/W)	1.56	1.56	1.56	1.56	1.56	0.78	0.78

**Minimum current loading over range required to fully turn on device.

OUTPUT VOLTAGE PARAMETERS (Ta = 25°C)

	50VDC		100VDC		200VDC	400VDC	600VDC
Load Voltage Option	40A	80A	40A	80A	40A	10A	50A
Load Voltage Range (VAC)	3~50VDC	3~50VDC	3~100VDC	3~100VDC	3~200VDC	3~400VDC	3~600VDC
Max On-State Voltage Drop	0.64V	0.64V	1.50V	1.60V	1.50V	3.6V	5.0V
Max On-State Resistance	16mΩ	8mΩ	3.75mΩ	20mΩ	35mΩ	360mΩ	100mΩ
Max Off-State Leakage Current	0.1 mA	0.1 mA	0.1 mA	0.1 mA	0.1 mA	0.1 mA	0.1 mA
Max Turn-On Time	2 ms						
Max Turn-Off Time	2 ms						

CHARACTERISTICS

Dielectric Strength	2500 VAC, 50 Hz / 60 Hz, 1 min. Input, Output to Base
Insulation Resistance	1000MΩ at 500 VDC
Vibration Resistance	10 Hz ~ 55 Hz 1.5mm DA
Shock Resistance	980 m/s^2
Operating Temperature	-30ºC to 80ºC
Storage Temperature	-30ºC to 100ºC
Relative Humidity	45% ~ 85%
Weight, approx.	~100g

LOAD VOLTAGE / LOAD CURRENT AVAILABILITY

		Load Voltage				
		50	100	200	400	600
Load Current	10				X	
	40	X	X	X		
	50					X
	80	X	X			

Standard Options denoted by "X", contact factory for other combinations

20550 Commerce Blvd, Rogers, MN 55374 USA
Sales (763) 535-2339
www.PickerComponents.com
email: sales@PickerComponents.com

Dimensions are shown for reference purposes only.
PCS33 Rev L 03/2025

ORDERING INFORMATION

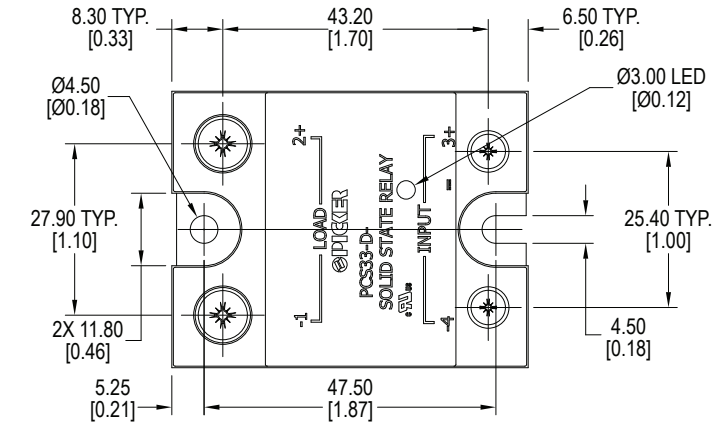
Example	PCS33	-D	-100	-80	L
Model:	PCS33				
Control Voltage:	D = 4~32VDC with LED				
Load Voltage: *Note Load Voltage / Load Current Availability Chart*	50 = 50VDC 100 = 100VDC 200 = 200VDC 400 = 400VDC				
Load Current: *Note Load Voltage / Load Current Availability Chart*	10 = 10A 40 = 40A 50 = 50A 80 = 80A				
Status LED:	L = Indicator LED standard				

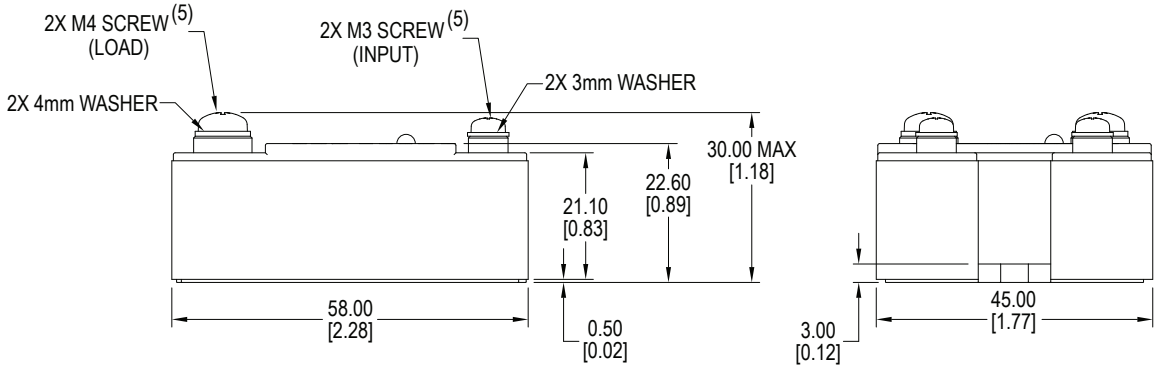
PRECAUTIONS

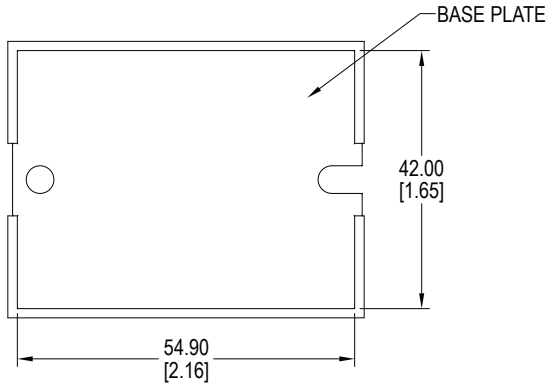
1. A diode is required for Inductive Loads.
2. When choosing a Solid State Relay (SSR), note the actual load current and ambient temperature and reference the Characteristic Curves.
3. SSRs require adequate heat sinking or other effective cooling measure.
4. With ambient temperature above 25°C, refer to the curve of Max Load Current vs. Ambient Temperature for load current derating.
5. Apply heat-conducting silicon grease or a thermal transfer pad on the space between the SSR and heat sink and screw the SSR firmly to the heat sink to avoid damage from overheating.

   Tighten the SSR terminal screws properly. We recommend screw installation torque as follows:
   M3 screw mounting torque range : 0.56~0.98 N*m
   M4 screw mounting torque range : 0.98~1.37 N*m
   Loose screws will damage the SSR with heat generated from connections. Also, excessive screw torque may damage the relay's 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. 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 datasheet.

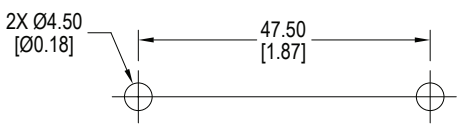
DIMENSIONS *mm (inches)*



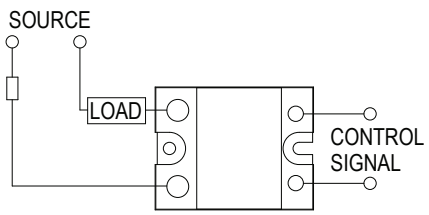




Mounting Layout

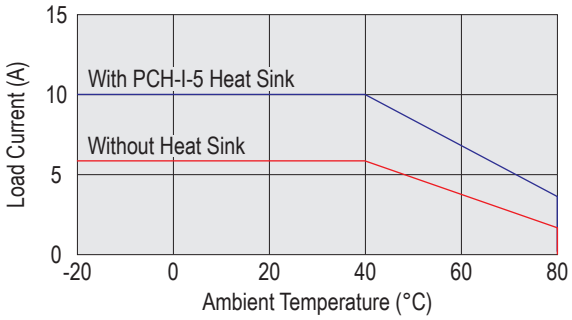


Wiring Diagram

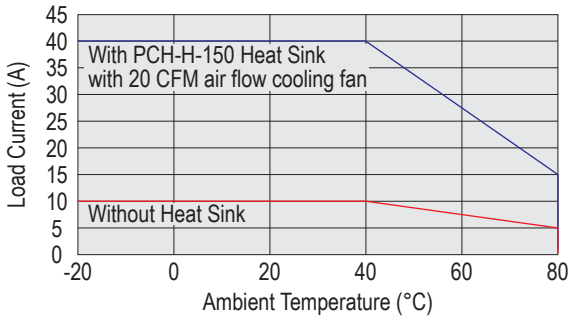


CHARACTERISTIC CURVES

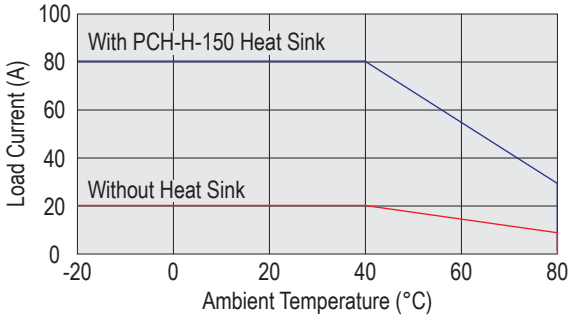
Max Load Current vs. Ambient Temperature (10A, 200V)



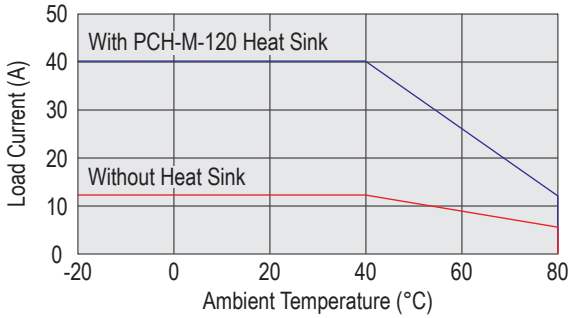
Max Load Current vs. Ambient Temperature (40A, 100V & 200V)



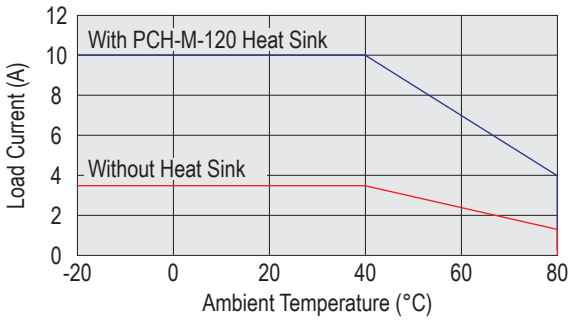
Max Load Current vs. Ambient Temperature (80A, 50V)



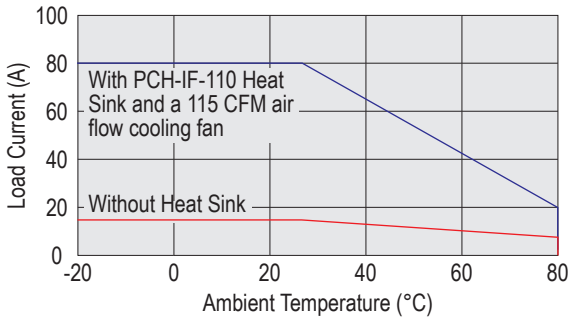
Max Load Current vs. Ambient Temperature (40A, 50V)



Max Load Current vs. Ambient Temperature (10A, 400V)



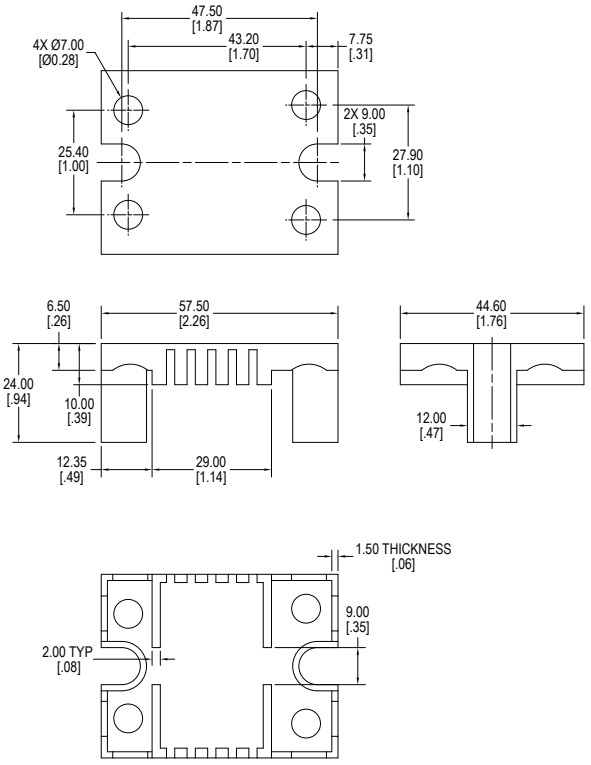
Max Load Current vs. Ambient Temperature (80A, 100V)



ACCESSORIES

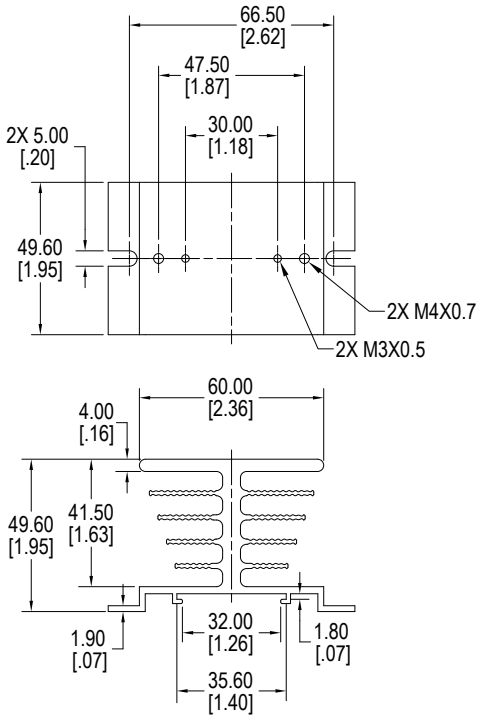
Heat Transfer Pad	HTP100
Protective Cover	SSR100
Heat Sinks	PCH-I-50 for applications 10 Amps @ 25°C PCH-M-120 for applications 10 Amps & 40 Amps @ 25°C PCH-H-150 for applications 40 Amps & 50 Amps @ 25°C PCH-IF-110 for applications 60 Amps and above @ 25°C (requires an additional cooling fan)

HTP100 — Heat Transfer Pad

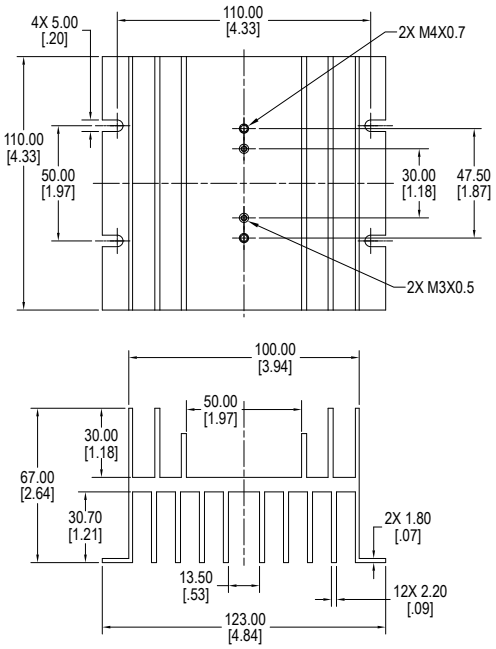


SSR100

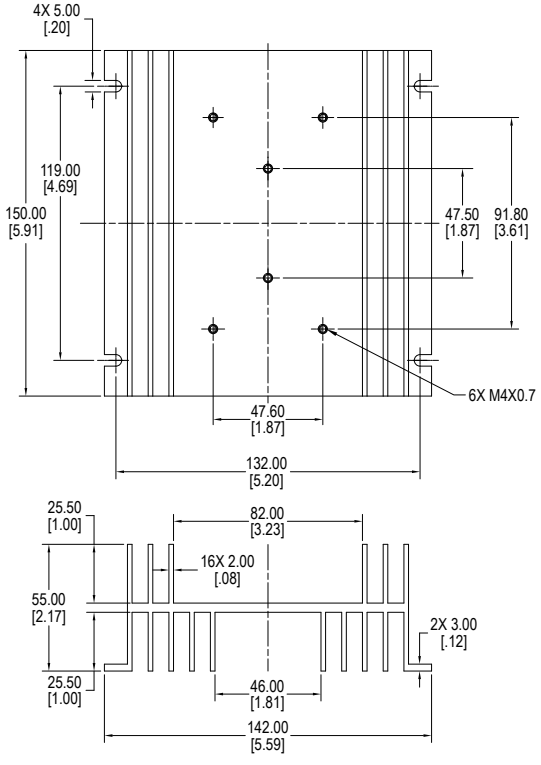
ACCESSORIES



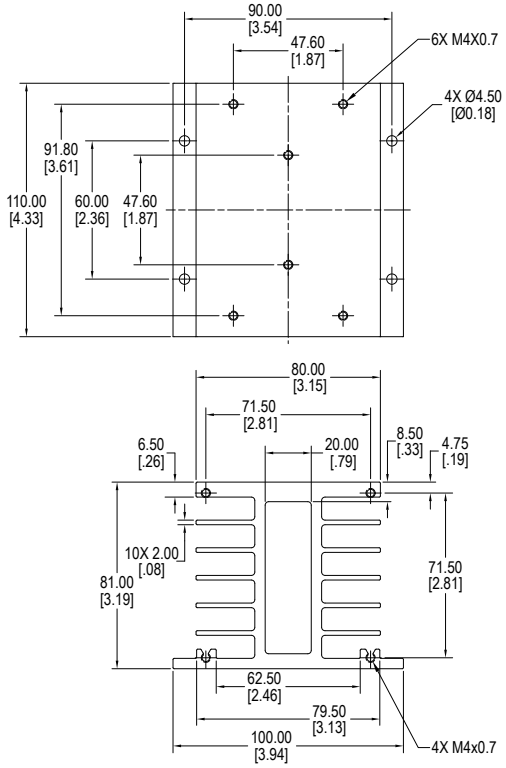
PCH-I-50 Heat Sink



PCH-M-120 Heat Sink



PCH-H-150 Heat Sink



PCH-IF-110 Heat Sink