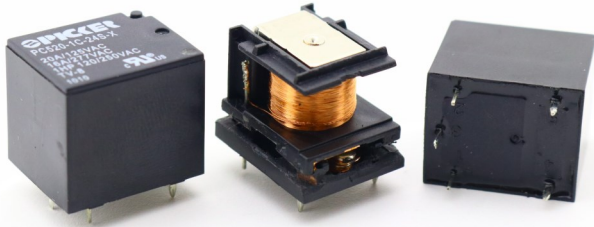


# 20 Amp Subminiature PCB Power Relay PC520



### FEATURES

- 20 A at 125 VAC and 16 A at 277 VAC Contact Rating
- 1 HP at 125 VAC and 250 VAC
- 80 Amp In Rush Current, TV-8 Rated at 125 VAC
- Class “F” Insulation Standard
- Popular “Sugar Cube” Footprint
- Sealed, Immersion Cleanable
- RoHS Compliant

### UL / CUL Ratings



Contact	Normally Open	Normally Closed
Inductive Load	1 HP (16 FLA) at 125 VAC 1 HP (8 FLA) at 250 VAC	1/2 HP (9.8 FLA) at 125 VAC 1/2 HP (4.9 FLA) at 250 VAC
Resistive Load	20 A at 125 VAC 100K Cycles	20 A at 125 VAC 30K Cycles
Tungsten Load	TV-8 at 125 VAC	TV-8 at 125 VAC
General Purpose	16 A at 277 VAC, 10 A at 250 VAC 85C 20K Cycles	

### CONTACT DATA

Maximum Switching Power	3840 VA	
Maximum Switching Voltage	250 VAC	
Maximum Switching Current	20 A	
Material	AgCdO, AgSnO <sub>2</sub> , AgCdO + Gold Plated	
Initial Contact Resistance	100 milliohms max @ 0.1 A, 6 VDC	
Service Life	Mechanical	1 X 10 <sup>7</sup> Operations
	Electrical	1 X 10 <sup>5</sup> Operations

### CHARACTERISTICS

Operate Time	Less than 15 ms
Release Time	Less than 10 ms
Insulation Resistance	1,000 MΩ min, at 500 VDC
Dielectric Strength	50 Hz 1,000 V, Between Contacts
	50 Hz 2,500 V, Between Contact and Coil, Surge Voltage: 4kV
Shock Resistance	100/ms <sup>2</sup> , 11 ms
Vibration Resistance	10 - 55 Hz, DA 1.0 mm
Power Consumption	360 mW, 450 mW, 600 mW

Terminal Strength	5N
Solderability	260°C for 5 seconds
Operating Temperature Class F	- 40 to 105°C
Operating Temperature Class B	- 40 to 85°C
Storage Temperature	- 40 to 155°C
Relative Humidity	93% at 40°C
Weight	10 grams
Material Compliant To	EU RoHS V2, EU REACH V3

### ORDERING INFORMATION

Example:	PC520	-1C	-12	S					-X
Model:	<b>PC520</b>								
Contact Form:	<b>1A, 1B, 1C</b>								
Coil Voltage*:	<b>3, 5, 6, 9, 12, 24, 48</b>								
Enclosure:	<b>S: Sealed; C: Dust Cover</b>								
Coil Power:	<b>Nil: .360 W, 0.45: 0.450 W, 0.60: 0.600 W;</b>								
Insulation System:	<b>Nil: Class F</b>								
Contact Material:	<b>Nil: AgCdO, T: AgSnO, G**: AgCdO + Gold Plate</b>								
RoHS Compliant:	<b>-X</b>								

Note: \* Some Coil Voltages will have Minimum Orders

Box Quantity 2000: Inner Box 1000

\*\*20,000 piece minimum order may apply - Contact Factory

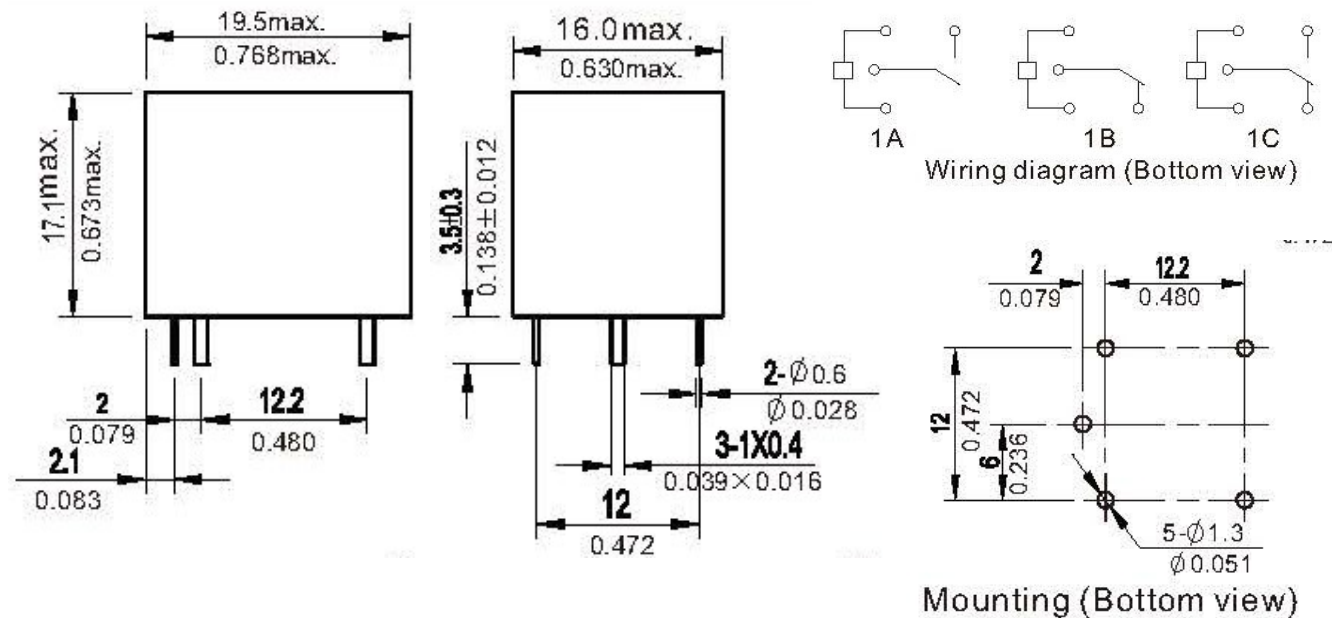
COIL DATA

Coil Voltage		Coil Power			Must Operate Voltage Max. (VDC)	Must Release Voltage Min. (VDC)
		Resistance ohms ± 10%				
Rated	Max	360 mW	450 mW	600 mW		
3	3.9	25	20	15	2.25	0.3
5	6.5	69	55.6	42	3.75	0.5
6	7.8	100	80	60	4.50	0.6
9	11.7	225	180	135	6.75	0.9
12	15.6	400	320	240	9.00	1.2
24	31.2	1600	1280	960	18.0	2.4
48	62.4	6400	5120	3840	36.0	4.8

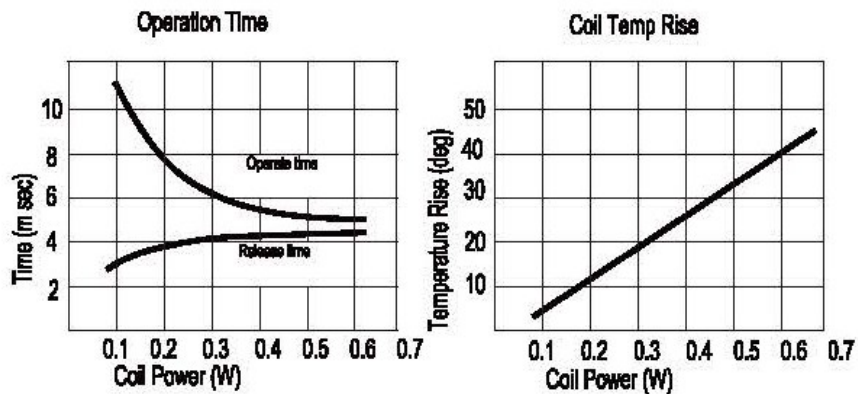
NOTES:

The use of any coil voltage less than the rated voltage will compromise the operation of the relays. Must Operate Voltage is listed for test purposes only and is not to be used as design criteria. Pickup and release voltages are for test purposes only and are not to be used as design criteria. Dimensions are in mm, Inches are listed for reference only.

DIMENSIONS (mm/inches)



CHARACTERISTIC CURVES



## PC520 Design Features

The PC520 relay is optimized to transfer heat away from the contacts, both the short-term heat from current surges and the long-term steady state heat from high current applications.

The relay's design utilizes an integrated system of features to dissipate heat, keeping the contacts cool. The system includes:

- **Oversized contacts** to reduce contact resistance and dissipate heat from high-inrush currents
- A **large metal plate** adjacent to the contacts to transfer heat away from the contacts
- A greatly **oversized iron core** in the middle of the coil, whose mass absorbs heat and further radiates it into the coil and frame of the relay
- A **Class F insulation system** that is materials rated at 180 °C

These components work together to do two things.

First, they dissipate and radiate short-term heat generated from surge currents, keeping contact temperatures below their melting point.

Second, they reduce the long-term effects of heat saturation from the heat generated by both contacts and coil.

## Typical Uses

Housed in an industry-standard "sugar cube" package, the PC520 was designed for applications including:

- Multiple lighting technologies (LED, halogen, mercury vapor, and florescent)
- Small motors such as those found in home appliances (blenders, mixers, printers)
- Power monitoring applications such as uninterruptible power supplies (UPS)
- High-current-demand resistive loads like water heaters, coffee pots, waffle makers, and other heating elements

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Email: [sales@pickercomponents.com](mailto:sales@pickercomponents.com)

