

## 50 Amp Power PCB Relay

PTRE-T



### UL / CUL Ratings

Load Type	Voltage	1 Form A	1 Form C (SPDT)	
		(SPST-NO)	NO	NC
Resistive 6,000 Cycles	240 VAC 30 VDC	50 A	50 A	40 A
Lamp 3,000 Cycles	240 VAC	TV-5	TV-5	—
Electric Ballast 6,000 Cycles	280 VAC	5A	5A	—
Motor Load 3,000 Cycles	250 VAC	2 HP	2 HP	1.5 HP

### CHARACTERISTIC

Operate Time	15 ms Max.
Release Time	10 ms Max
Insulation Resistance	1,000 MΩ min, at 500 VDC
Dielectric Strength	50 Hz 2,500 V 1 Min Between Coil and Contacts 50 Hz 1,500 V 1 min. Between Contacts
Shock Resistance	200 m/s <sup>2</sup> , 11 ms
Vibration Resistance	10 - 55 Hz Double Amplitude
Terminal Strength	10N
Power Consumption	1.5 W

### FEATURES

- Popular Power PCB Relay Footprint - T90
- 50 Amp 240 VAC General Purpose UL Rating
- T2 (1A), T3 (1C) PC Pins & QC Pins
- UL Class F Insulation Standard
- Meets UL 508 and UL 873 Spacing\*
- RoHS Compliant

### UL E93379 at 40°C

Load Type	Cycles	Voltage	1 Form C (SPDT)	
			NO	NC
General Purpose (Resistive)	10,000 50,000	240 VAC/30 VDC 240 VAC/30 VDC	50 A 40 A	35 A 30 A

\*Meets UL 508 and UL 873 Spacing - 3.18 mm Through Air,  
6.36 mm Over Surface.

### CONTACT DATA

Material	AgSnO <sub>2</sub> In <sub>2</sub> O <sub>3</sub> (AgSnO <sub>2</sub> )	
Initial Contact Resistance	30 mΩ Max. @ 1 A, 6 VDC	
Maximum Switching Voltage	110 VDC, 300 VAC	
Maximum Switching Current	50 A	
Maximum Switching Power	1,500 W, 12,000 VA	
Service Life	Mechanical	1 X 10 <sup>7</sup> Operations
	Electrical	5 X 10 <sup>4</sup> Operations

### CHARACTERISTIC Continued

Solderability	260°C for 5 seconds
Operating Temperature Range	-55°C to 100°C
Relative Humidity	85% (at 40°C)
Weight	33 grams
Material Compliant To	EU RoHS V2, EU REACH V3

### ORDERING INFORMATION

Example:	PTRE	-1C	-12	S	T	-T3	-X	A
Model:	PTRE (PTRE-T)							
Contact Form:	1A or 1C							
Coil Voltage:	3, 5, 6, 9, 12, 15, 24, 48, 110							
Enclosure:	C: Dust Cover; S: Sealed							
Insulation Material:	Nil: Class F							
Contact Material:	T: AgSnO <sub>2</sub> In <sub>2</sub> O <sub>3</sub> (AgSnO <sub>2</sub> )							
Mounting Type:	T2: 1 Form A PCB & QC; T3: 1 Form C PCB & QC							
RoHS Compliant:	X							
Pinout:	A: Alternate Quick Connect Pinout							

T2 & T3 Box Quantity: 600; Inner Box 300, T4 & T5 Box Quantity: 400: Inner Box:100

## COIL DATA

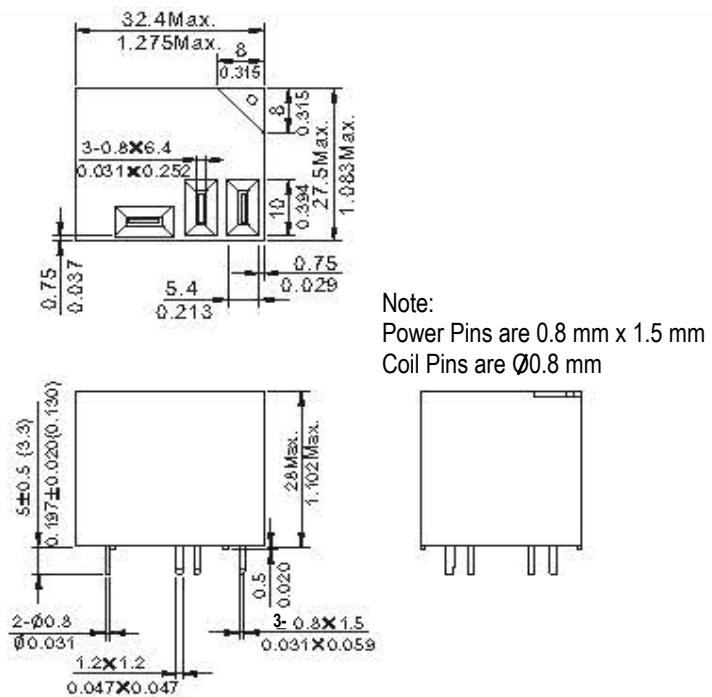
Coil Voltage		Resistance (Ohms $\pm$ 10%)	Must Operate Voltage Max (VDC)	Must Release Voltage Min. (VDC)	Coil Power (W)
Rated	Max				
3	3.9	6.0	2.25	0.3	1.5
5	6.5	16.7	3.75	0.5	
6	7.8	24.0	4.50	0.6	
9	11.7	54.0	6.75	0.9	
12	15.6	96.0	9.00	1.2	
15	19.5	150	10.25	1.5	
18	23.4	216	13.50	1.8	
24	31.2	384	18.00	2.4	
48	62.4	1,536	36.00	4.8	
110	143	8,067	82.50	11.0	

## NOTES:

**NOTE:** The use of any coil voltage less than the rated voltage will compromise the operation of the relays. Must Operate Voltage and Must Release Voltages are for test purposes only and are not to be used as design criteria.

**MOUNTING TYPE (mm/inches)**

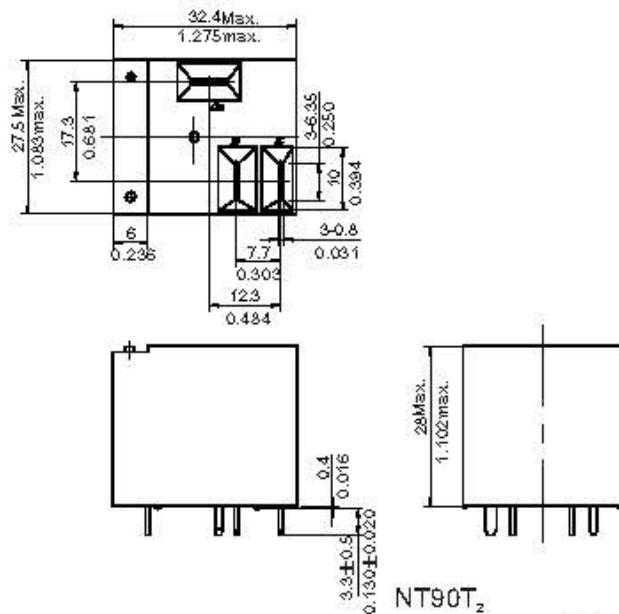
Knock off, on top corner, nib for ventilation after soldering and water wash.



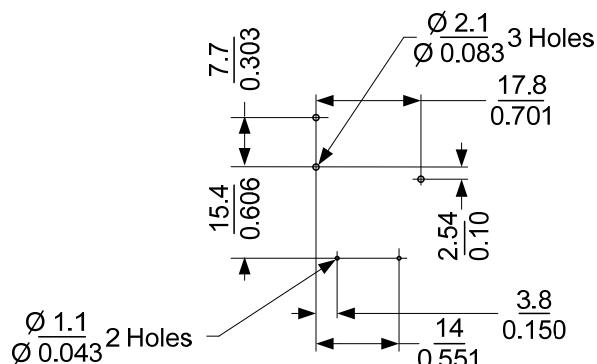
“T2” & “T3”

**ALTERNATE MOUNTING TYPE (mm/inches)**

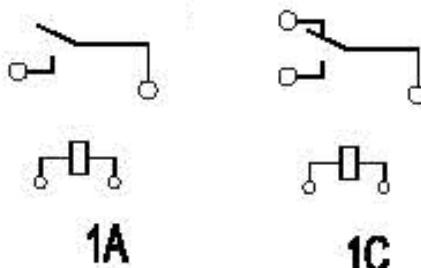
Knock off, on top corner, nib for ventilation after soldering and water wash.



**“A”**  
**T2 & T3**



(Bottom View)

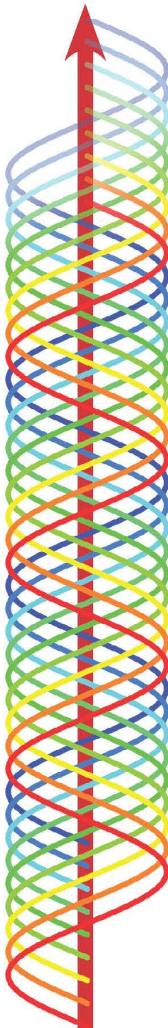
**PRINTED CIRCUIT BOARD LAYOUT**

(Bottom View)

**CONTACT FORMS**



## T90 Style Relays



50 Amp

### PTRE 50/35 Amp 1,500 W, 12,000 VA

- Larger Contacts than PTRD/PTRDE
- **Braided Copper Wire Added to Dissipate Heat from Contacts to the Coil Frame and PCB Pins**
- 50 Amp 240 VAC 10,000 Cycle UL Resistive Rating
- Class F Material -40° to 125° C Standard

40+ Amp

### PTRDE 40/30 Amp 1,200 W, 10,000 VA

- **Braided Copper Wire Added to Dissipate Heat from Contacts to the Coil Frame and PCB Pins**
- 40 Amp 240 VAC 50,000 Cycle UL Resistive Rating
- Class F Material -40° to 125° C Standard

40 Amp

### PTRD 40/30 Amp 1,200 W, 10,000 VA

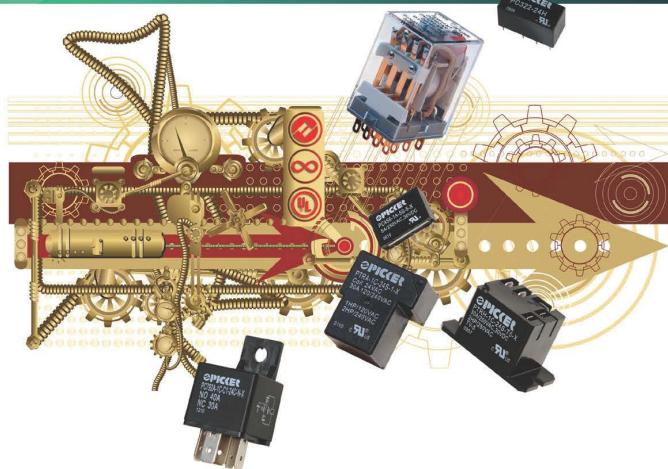
#### PTRA AC Coil Options from 12 to 277 VAC

- Larger Contacts than PTRH
- 40 Amp 240VAC UL Resistive Rating
- 25 Amp 277 VAC 100K Cycles UL Resistive Rating
- Class F Material -40° to 125° C Standard

30 Amp

### PTRH 30/20 Amp 900 W, 7,500 VA

- 30 Amp 277 VAC UL General Purpose Rating
- 30 Amp 250 VAC 100K Cycle UL Resistive Rating
- Class B -40° to 100° C Standard, Optional Class F



#### Packaging Options (i.e. PTRH-T)



Dust Cover or Sealed with Scratch off Nib



-T (T2 & T3) with PC Pins and Contact QC



-T (T4 & T5) w/QC Tabs & Mounting Ears



-OT (OT2 & OT3) with PC Pins and Contact QC



-OT (OT4 & OT5) w/QC Tabs & Mounting Ears