

50 Amp Power PCB Relay PTRE-T



FEATURES

- Popular Power PCB Relay Footprint - T90
- 50 Amp 240 VAC General Purpose UL Rating
- Two Versions
 - ◆ T2 (1A), T3 (1C) PC Pins & QC Pins
 - ◆ T4 (1A), T5 (1C) QC Pins with Mounting Tabs
- UL Class F Insulation Standard
- Meets UL 508 and UL 873 Spacing
- RoHS Compliant

FACTORY RATINGS

Load Type	Voltage	1 Form A (SPST-NO)	1 Form B (SPST-NC)	1 Form C	
				NO	NC
Resistive 6,000 Cycles	240 VAC 30 VDC	50 A	35 A	50 A	40 A
Lamp 3,000 Cycles	240 VAC	TV-5	—	TV-5	—
Electric Ballast 6,000 Cycles	280 VAC	5 A	—	5 A	—
Motor Load 3,000 Cycles	250 VAC	2 HP	1,5 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 ² , 11 ms
Vibration Resistance	10 - 55 Hz Double Amplitude
Terminal Strength	10N
Power Consumption	1.5 W

ORDERING INFORMATION

Example: PTRE -1C -12 E T -T5 -X

Model: **PTRE (PTRE-T)**

Contact Form: **1A, 1B or 1C**

Coil Voltage: **3, 5, 6, 9, 12, 15, 24, 48, 110**

Enclosure: T2 & T3: **C**: Dust Cover; **S**: Sealed;

T4 & T5: **E**: Covered, Not Washable

Insulation Material: **Nil**: Class F

Contact Material: **Nil**: AgCdO; **T**: AgSnO₂In₂O₃

Mounting Type: **T2**: 1 Form A PCB & QC; **T3**: 1 Form C PCB & QC;

T4: 1 Form A Panel all QC; **T5**: 1 Form C Panel all 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

UL E93379 at 40°C

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

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

CONTACT DATA

Material	AgCdO, AgSnO ₂ In ₂ O ₃	
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 ⁷ Operations
	Electrical	5 X 10 ⁴ Operations

CHARACTERISTIC Continued

Solderability	235 °C for 3 secs
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

COIL DATA

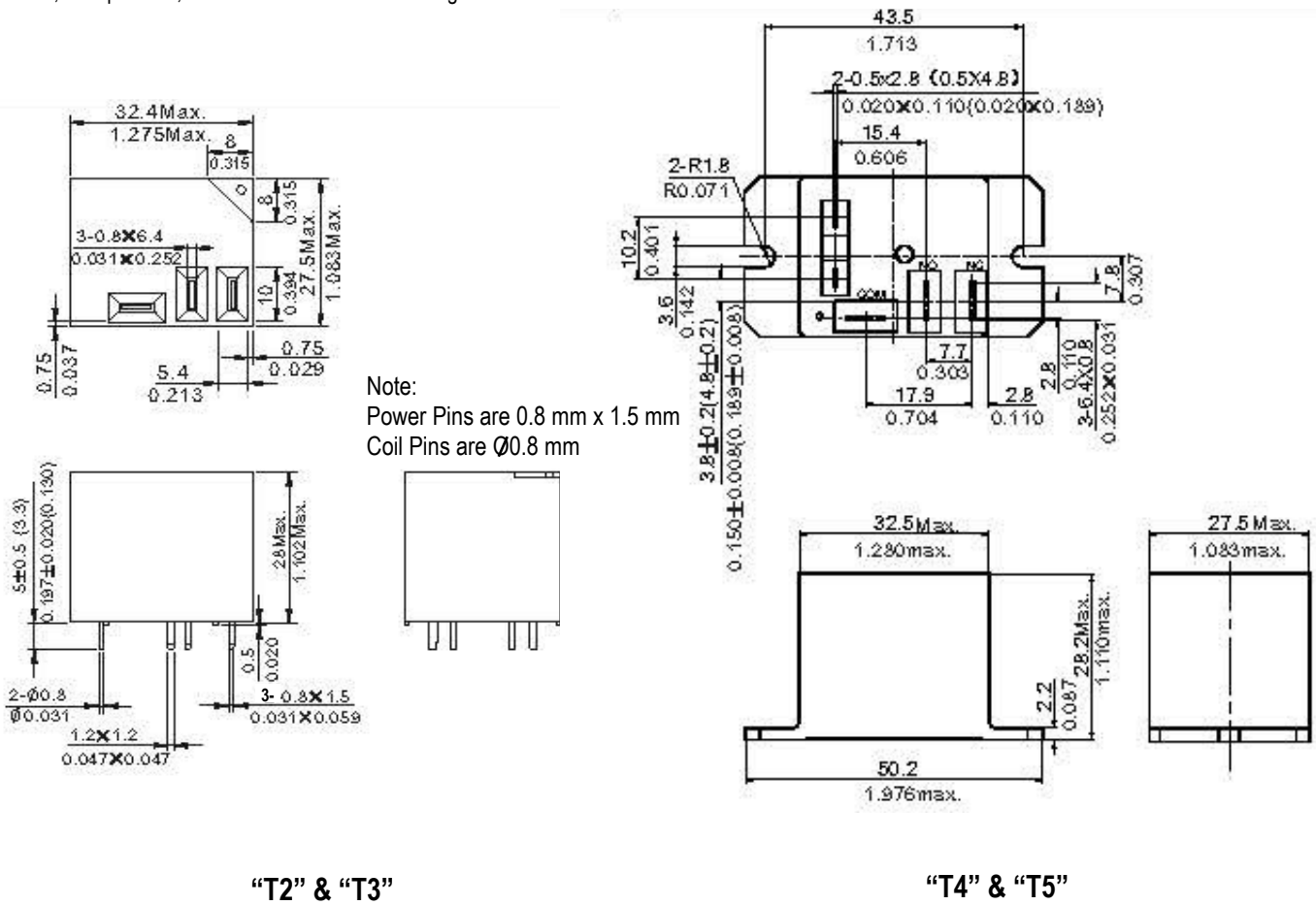
Coil Voltage		Resistance (Ohms ± 10%)	Must Operate Voltage Max (VDC)	Must Release Voltage Min. (VDC)	Coil Power (W)
Rated	Max				
3	3.9	6.0	2.25	0.3	1.5
5	6.5	16.7	3.75	0.5	
6	7.8	24.0	4.50	0.6	
9	11.7	54.0	6.75	0.9	
12	15.6	96.0	9.00	1.2	
15	19.5	150	10.25	1.5	
18	23.4	216	13.50	1.8	
24	31.2	384	18.00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

NOTES:

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.

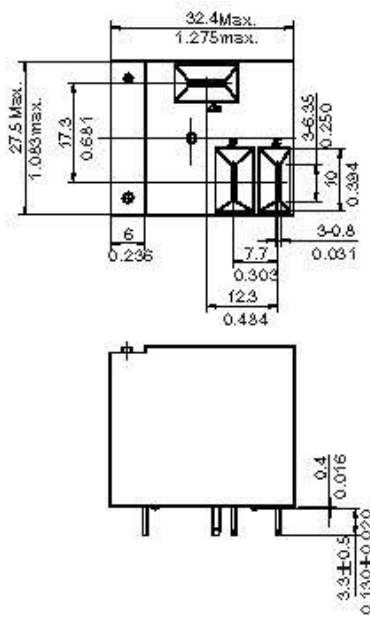
MOUNTING TYPE (mm/inches)

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

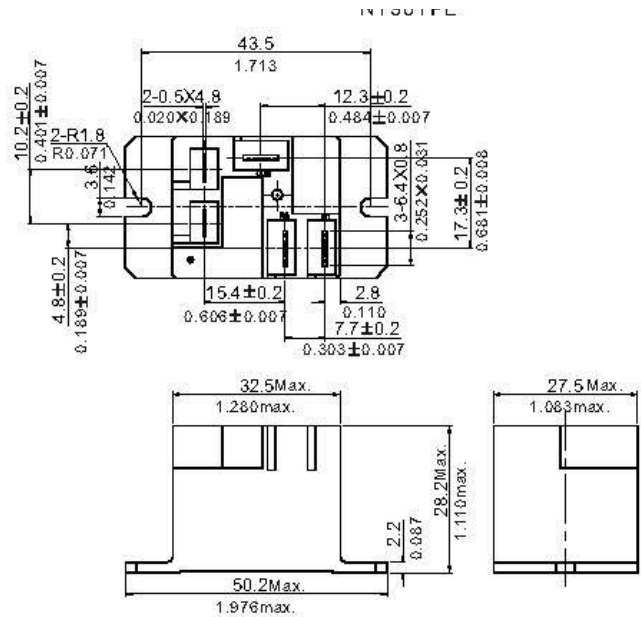


ALTERNATE MOUNTING TYPE (mm/inches)

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

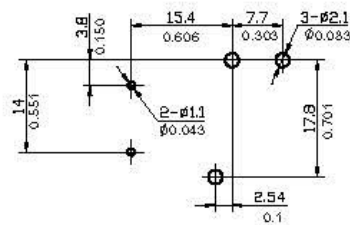


"A"
T2 & T3



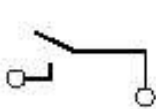
"A"
T4 & T5

PRINTED CIRCUIT BOARD LAYOUT

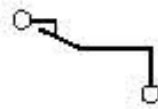


(Bottom View)

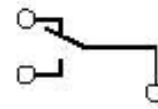
CONTACT FORMS



1A



1B

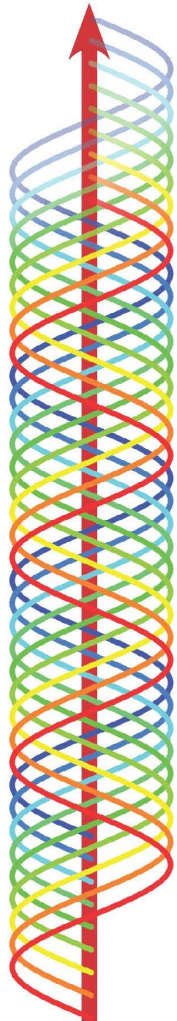
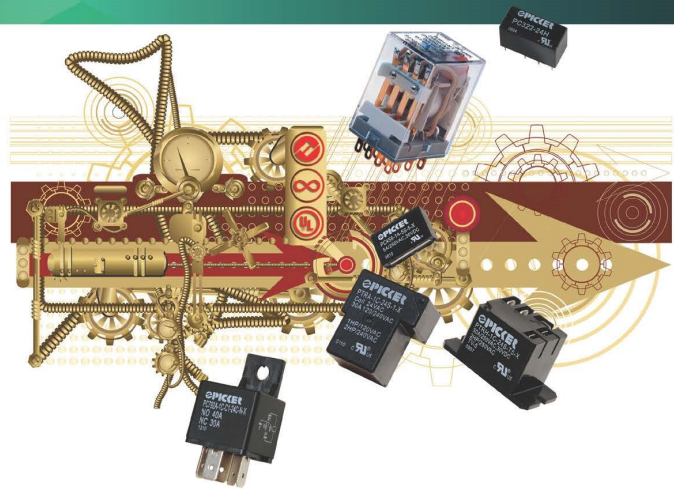


1C

(Bottom View)



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



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- 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

