

40 Amp Power PCB Relay

PTRD



US E86876

FEATURES

- Popular Power PCB Relay Footprint - T90
- 40 Amp 240 VAC General Purpose UL Rating
- 2 HP 250 VAC Rating
- UL Class F Insulation Standard
Meets UL 508 and UL 873 Spacing with Pin 6 Omitted
- RoHS Compliant

CONTACT DATA

Load Type	Voltage	1 Form A (SPST-NO)	1 Form B (SPDT-NC)	1 Form C (SPDT)	
				NO	NC
General Purpose	120 VAC	40 A	30 A	40 A	30 A
	240 VAC	30 A	20 A	30 A	20 A
	277 VAC	30 A	20 A	30 A	20 A
	280 VAC	5 A	5 A	5 A	5 A
	30 VDC	40 A	30 A	40 A	30 A
Resistive	240 VAC	40 A	30 A	40 A	30 A
	240 VAC 250K Cycles	20 A	---	20 A	---
	277 VAC 100K Cycles	25 A	---	25 A	---
	30 VDC	40 A	30 A	40 A	30 A
Motor	250 VAC	2 HP	1.5 HP	2 HP	1.5 HP
	120 VAC	1 HP	---	1 HP	---
Ballast	280 VAC	5 A	5 A	5 A	5A
LRA/FLA	240 VAC	80 A/30 A	---	80 A/30	---
	120 VAC	96 A/30 A	---	96 A/30	---

Material	AgCdO, AgSnO ₂ In ₂ O ₃ , AgCdO+AU	
Initial Contact Resistance	50 mΩ Max. @ 1 A, 6 VDC	
Maximum Switching Voltage	110 VDC, 300 VAC	
Maximum Switching Current	40 A	
Maximum Switching Power	1,200 W, 10,000 VA	
Service Life	Mechanical	1 x 10 ⁷ Operations
	Electrical	5 x 10 ⁴ Operations

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

CHARACTERISTIC

Operate Time	Less than 15 ms.
Release Time	Less than 10 ms
Insulation Resistance	1,000 MΩ min, at 500 V
Power Consumption	0.6 W, 0.9 W, 1.1 W

CHARACTERISTIC Continued

Dielectric Strength	50 Hz 1,500 V Between Open Contacts
	50 Hz 2,500 V Between Contacts and Coil
Shock Resistance	200 m/s ² 11ms
Vibration Resistance	10 Hz - 55 Hz Double Amplitude 1.5 mm
Terminal Strength	10N
Solderability	260°C for 5 seconds
Operating Temp. Range	- 55°C to 125°C
Relative Humidity	85% (at 40°C)
Weight	30 grams, 27 grams Open
Material Compliant To	EU RoHS V2, EU REACH V3

ORDERING INFORMATION

Example: PTRD -1C -12 S G -1 -X -

Model: **PTRD**

Contact Form: **1A:** 1 Form A (SPST-NO)
1B: 1 Form B (SPST-NC)
1C: 1 Form C (SPDT)

Coil Voltage: **3, 5, 6, 9, 12, 15, 18, 24, 48, 110**

Enclosure: **Nil:** Open Frame; **S:** Sealed

Insulation Material: **Nil:** Class F

Contact Material: **Nil:** AgCdO; **T:** AgSnO₂In₂O₃; **G:** AgCdO+Au

Spacing: **Nil:** UL508; **-1:** UL 508 and UL 873 (Pin #6 Omitted)

RoHS/Dielectric: **X:** RoHS Compliant; **H:** RoHS plus 4 kv Dielectric

Coil Sensitivity: **Nil:** 0.9 W (1); **0.6:** 0.6 W; **1.1:** 1.1 W (*0.9 is Industry Standard)

Box Quantity: 600; Inner Box 300

(1) 0.9 W is Industry Standard

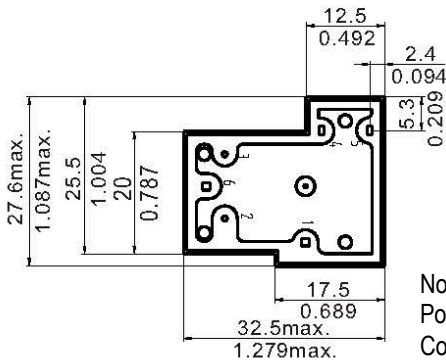
COIL DATA

Coil Voltage (VDC) (2)		Coil Power (W)			Coil Power (W)		Must Release Voltage Min (VDC) (3)
		Resistance (Ohms ± 10%)			Must Operate Voltage Max (VDC)		
Rated	Max	0.6 W	0.9 W (1)	1.1 W	0.6 W & 0.9 W (2)	1.1 W	
3	3.9	15	10	—	2.25	—	0.3
5	6.5	42	28	—	3.75	—	0.5
6	7.8	60	40	33	4.50	4.8	0.6
9	11.7	135	90	—	6.75	—	0.9
12	15.6	240	150	131	9.00	9.6	1.2
15	19.5	375	260	—	10.25	—	1.5
18	23.4	540	380	—	13.50	—	1.8
24	31.2	960	640	524	18.00	19.2	2.4
48	62.4	3840	2560	2095	36.00	38.4	4.8
110	143	20167	13445	—	82.50	—	11.0

NOTES:

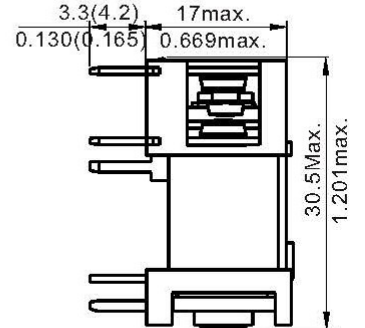
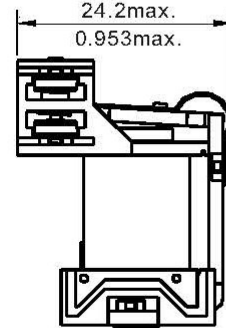
- (1) 0.9 W is Industry Standard
- (2) The use of any coil voltage less than the rated voltage will compromise the operation of the relays.
- (3) Must Operate Voltage and Must Release Voltages are for test purposes only and are not to be used as design criteria.

DIMENSIONS (mm/inches)

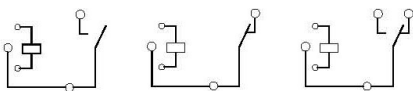
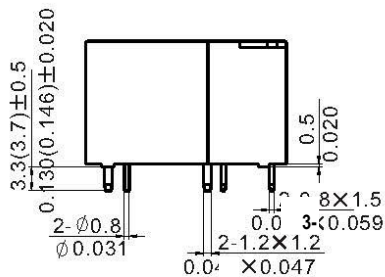


Note:
Power Pins are 0.8 mm x 1.5 mm
Coil Pins are Ø0.8 mm

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

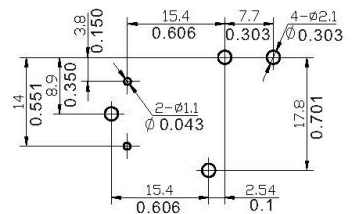
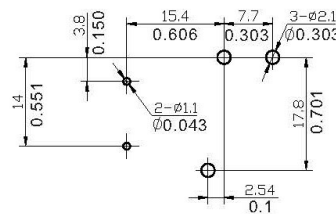


Open type



Wiring diagram(Bottom view)

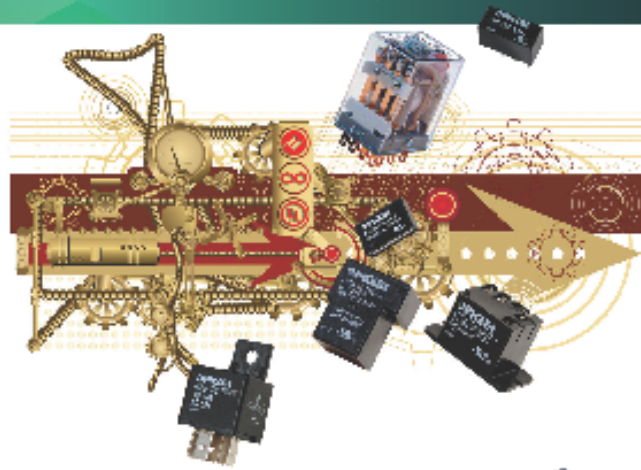
-1 with Pin 6 Omitted



Mounting (Bottom view)



T90 Style Relays



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

- Larger Contacts than PTRD
- *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



45 Amp **PTRV 45 Amp 277 VAC 12,500 VA**

New

- >1.8 mm Contact Gap
- 2.25 Watt Coil for Vibration Tolerance
- Class F Material -40° to 85° C Standard
- Designed for PV Inverter & Motor Control Applications



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 240 VAC 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

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