Catalog 1308242 Issued 3-03 (PDF Rev. 11-04)



# T77 series

# 10 Amp Miniature **PC Board Relay**

**FII** File E29244

**©** File LR48471

Users should thoroughly review the technical data before selecting a product part number. It is recommended that user also seek out the pertinent approvals files of the agencies/laboratories and review them to ensure the product meets the requirements for a given application.

#### **Features**

- Small size for high density PC board mounting
- 1 Form A contact arrangements.
- Creepage spacings of 6.5mm between contact and coil.
- Ideal for appliance, office equipment.
- 4,000VAC dielectric strength between contact and coil.
- UL Class F (155°C) approved insulation system.

# Contact Data @ 20°C

Arrangements: 1 Form A (SPST-NO). Material: Contact rating 3 - Silver. Contact rating 10 - Silver alloy.

Max. Switching Rate: 300 ops./min. (no load)

30 ops./min. (rated load).

Expected Mechanical Life: 10 million operations. Expected Electrical Life: 100,000 operations. Minimum Contact Load: 10mA @ 5VDC.

Initial Contact Resistance: 100 milliohms max. @ 100mA, 6VDC.

#### Contact Ratings @ 20°C with relay properly vented. Remove vent nib after soldering and cleaning.

Contact Rating	UL/CSA Ratings	Туре	Operations
3	3A @ 277VAC 10LRA/1.5FLA @ 120VAC 5.4LRA/0.9FLA @ 240VAC 3LRA/1.5FLA @ 120VAC 3A @ 250VAC 3A @ 250VAC UL 3A @ 30VDC 2A @ 120VAC 3A @ 120VAC	Resistive Motor Motor Motor Resistive General Purpose Resistive Gen. Purpose Resistive	6,000 30,000** 30,000** 100,000 100,000 100,000 100,000 100,000*** 100,000***
10	10LRA/1.5FLA @ 120VAC 5.4LRA/0.9FLA @ 240VAC 10A @ 250VAC 10A @ 30VDC 10A @ 250VAC UL	Motor Motor Resistive Resistive General Purpose	30,000** 30,000** 100,000 100,000 200,000

- \*Denotes test at 70°C ambient temperature.
- \*\*Denotes test at 85°C ambient temperature. \*\*\*Denotes test at 105°C ambient temperature.

#### **Initial Dielectric Strength**

Between Open Contacts: 750VAC 50/60 Hz. (1 minute). Between Coil and Contacts: 4,000VAC 50/60 Hz. (1 minute).

#### **Initial Insulation Resistance**

Between Mutually Insulated Elements: 108 ohms, min. @ 500VDC.

#### Coil Data @ 20°C

Voltage: 3 to 24VDC.

**Nominal Coil Power:** Contact rating 3 = 200mW. Contact rating 10 = 450mW. Coil Temperature Rise: Contact rating  $3 = 35^{\circ}$ C max.

Contact rating 10 = 40°C max.

Max. Coil Power: 120% of nominal.

Duty Cycle: Continuous.

#### Coil Data @ 20°C

Rated Coil Voltage (VDC)	Coil Resistance (Ohms) ±10% Contact Rating 3   Contact Rating 10		Must Operate Voltage (VDC)	Must Release Voltage (VDC)
3	45	20	2.25	0.15
5	125	55	3.75	0.25
12	720	320	9.00	0.60
24	2,800	1,280	18.00	1.20

#### Operate Data @ 20°C

Operate Time: 10 ms, max. (excluding bounce). Release Time: 4 ms, max. (excluding bounce).

#### **Environmental Data**

Temperature Range: Storage: -40°C to +130°C.

Operating: Contact Rating 3: -40°C to +105°C. Contact Rating 10: -40°C to +85°C.

Vibration: Mechanical: 10 to 55 Hz., 1.5mm double amplitude. Operational: 10 to 55 Hz., 1.5mm double amplitude.

Shock: Mechanical: 100g min. Operational: 10g min. Operating Humidity: 45 to 85% RH.

#### **Mechanical Data**

Termination: Printed circuit board.

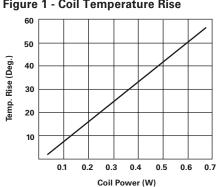
Enclosures (94V-0 Flammability Ratings):

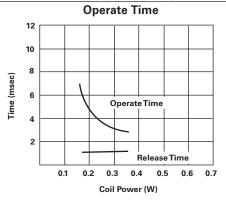
T77S: Immersion cleanable.

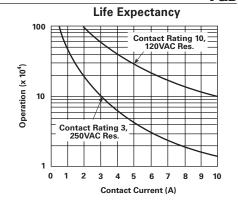
T77V: Vented, flux-tight, plastic cover.

Weight: 0.36 oz. (9g).

Figure 1 - Coil Temperature Rise







Note: Graphical data should not be used as a substitute for specific application verification. To be used for estimates only.

# **Ordering Information**

**T77** Typical Part Number ▶

1

D

-24

10

1. Basic Series:

T77 = Miniature PCB relay.

2. Enclosure:

V = Vented (Flux-tight)\*

S = Immersion cleanable case

3. Contact Arrangement:

1 = (SPST-NO)

4. Coil Input:

D = DC Voltage

5. Contact Rating: 10 = 10A

3 = 3A

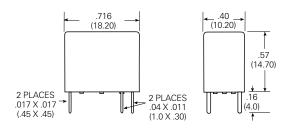
6. Coil Voltage:

03 = 3VDC 05 = 5VDC 12 = 12VDC

## Our authorized distributors are more likely to maintain the following items in stock for immediate delivery.

T77V1D3-12 T77V1D3-24 T77V1D10-12 T77V1D10-24 T77S1D3-12 T77S1D3-24 T77S1D10-12 T77S1D10-24

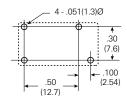
# **Outline Dimensions**



## Wiring Diagram (Bottom View) 1 Form A



#### Suggested PC Board Layout (Bottom View)



<sup>\*</sup>Not suitable for immersion cleaning processes.