

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 | Coil Resistance (Ohms) ±10% | | Must Operate Voltage | Must Release Voltage | | | |
|--------------------------|-----------------------------------|-------------------|----------------------------|----------------------------|--|--|--|
| (VDC) | Contact Rating 3 | Contact Rating 10 | (VDC) | (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.

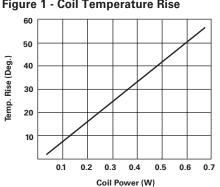
Enclosures (94V-0 Flammability Ratings):

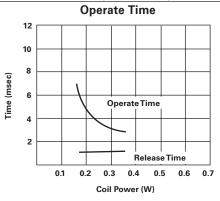
T77S: Immersion cleanable.

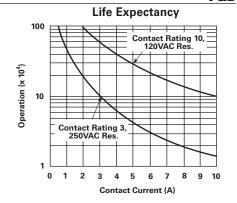
T77V: Vented, flux-tight, plastic cover.

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

10

-24

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: 3 = 3A10 = 10A

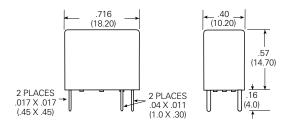
6. Coil Voltage:

03 = 3VDC 05 = 5VDC 12 = 12VDC 24 = 24VDC

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

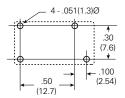
Outline Dimensions



Wiring Diagram (Bottom View) 1 Form A



Suggested PC Board Layout (Bottom View)



^{*}Not suitable for immersion cleaning processes.