



# T77 series

## 10 Amp Miniature PC Board Relay

File E29244

File LR48471

### 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 (140°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	Type	Operations
3	3A @ 277VAC	Resistive	6,000
	10LRA/1.5FLA @ 120VAC	Motor	30,000**
	5.4LRA/0.9FLA @ 240VAC	Motor	30,000**
	3LRA/1.5FLA @ 120VAC	Motor	100,000*
	3A @ 250VAC	Resistive	100,000
	3A @ 250VAC UL	General Purpose	100,000
	3A @ 30VDC	Resistive	100,000
	2A @ 120VAC	Gen. Purpose	100,000***
	3A @ 120VAC	Resistive	100,000***
10	10LRA/1.5FLA @ 120VAC	Motor	30,000**
	5.4LRA/0.9FLA @ 240VAC	Motor	30,000**
	10A @ 250VAC	Resistive	100,000
	10A @ 30VDC	Resistive	100,000
	10A @ 250VAC UL	General Purpose	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:** 10<sup>8</sup> 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°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%		Must Operate Voltage (VDC)	Must Release Voltage (VDC)
	Contact Rating 3	Contact Rating 10		
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:** -30°C to +55°C.

**Contact Rating 3:** -40°C to +80°C.

**Contact Rating 10:** -40°C to +55°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.

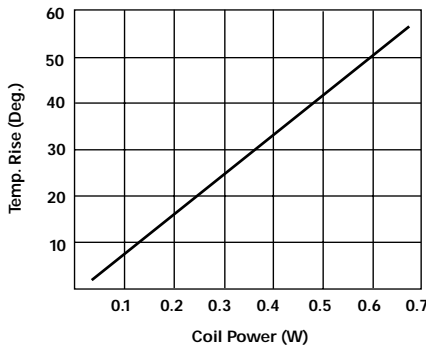
**Enclosures (94V-0 Flammability Ratings):**

**T77S:** Immersion cleanable.

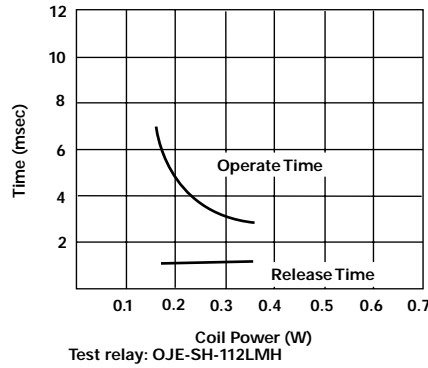
**T77V:** Vented, flux-tight, plastic cover.

**Weight:** 0.36 oz. (9g).

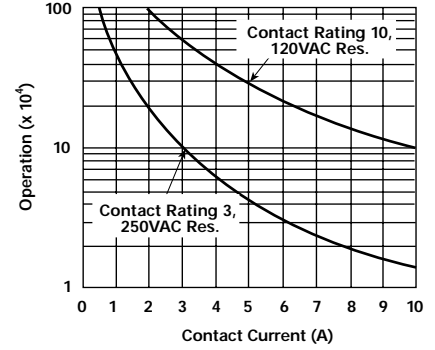
Figure 1 - Coil Temperature Rise



Operate Time



Life Expectancy



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

Ordering Information

Typical Part Number ▶ T77 V 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 = 3A 10 = 10A

6. Coil Voltage:

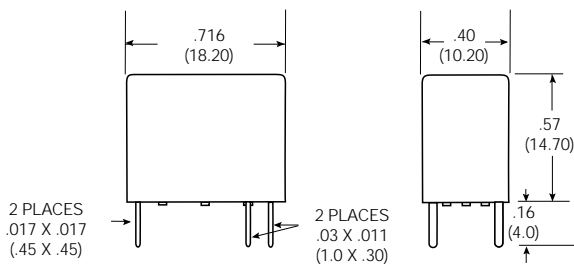
3 = 3VDC 5 = 5VDC 12 = 12VDC 24 = 24VDC

\*Not suitable for immersion cleaning processes.

Stock Items – The following items are maintained in stock.

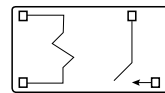
- T77V1D3-12
- T77V1D10-12
- T77S1D3-12
- T77S1D10-12
- T77V1D3-24
- T77V1D10-24
- T77S1D3-24
- T77S1D10-24

Outline Dimensions



Wiring Diagram (Bottom View)

1 Form A



Suggested PC Board Layout (Bottom View)

