



T77 series

10 Amp Miniature PC Board Relay

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	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: 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°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: 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.

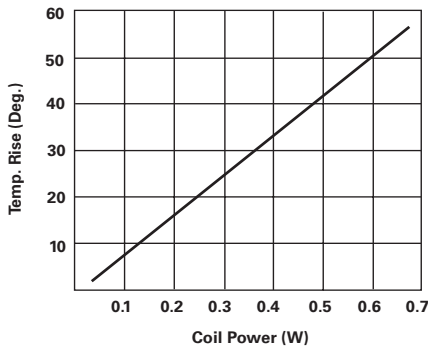
Enclosures (94V-0 Flammability Ratings):

T77S: Immersion cleanable.

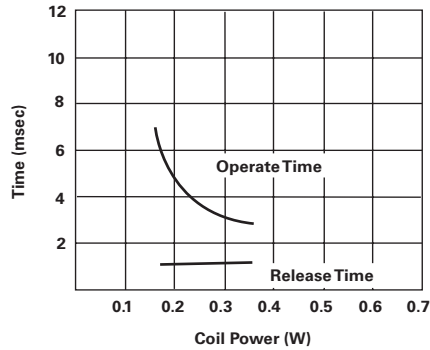
T77V: Vented, flux-tight, plastic cover.

Weight: 0.36 oz. (9g).

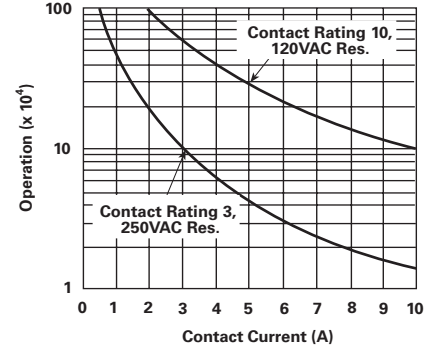
Figure 1 - Coil Temperature Rise



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:

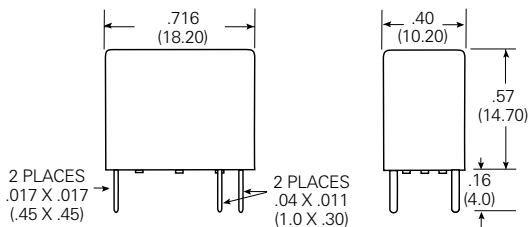
03 = 3VDC 05 = 5VDC 12 = 12VDC 24 = 24VDC

*Not suitable for immersion cleaning processes.

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

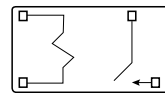
- | | | | |
|------------|-------------|------------|-------------|
| T77V1D3-12 | T77V1D10-12 | T77S1D3-12 | T77S1D10-12 |
| T77V1D3-24 | T77V1D10-24 | T77S1D3-24 | T77S1D10-24 |

Outline Dimensions



Wiring Diagram (Bottom View)

1 Form A



Suggested PC Board Layout (Bottom View)

