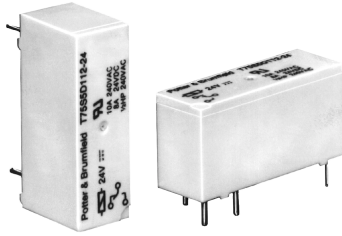*Sensitive, Low Profile, Hi-Current*
Relay Designed to Meet
International Standards

T75 series

14 Amp, PC Board Miniature Relay

U File E29244
SA File LR45064
VDE File No. 3919

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

- High sensitivity – nominal coil power requirement is as low as 212mW.
- Low profile, .591 in. (15mm) tall case uses only .465 in^2 (3cm^2) of area on the printed circuit board, permitting high density circuit design.
- Power switching capability – contacts rated 14 amps in 1 Form A (SPST-NO) or 1 Form C (SPDT) arrangements.
- Designed to meet UL, CSA, VDE, SEMKO and SEV requirements.
- Designed to meet VDE 8mm spacing, 4kV dielectric, coil to contacts.
- Designed to meet 3 mm creepage between contacts.
- Conforms to: VDE 0110 – Insulation Group C (250V)
  - VDE 435 Part 201 – High current applications
  - VDE 0804 – Telecommunications equipment
  - VDE 0631 – Temperature controllers and limiters
  - VDE 0700 – Household appliances
  - VDE 0805/5.90 – Office machines
- Immersion cleanable§, ultrasonically sealed case.
- Well suited for a broad range of applications e.g. HVAC, appliances, security and industrial control.

§ For more details, refer to application note 13C265, "Mounting, Termination and Cleaning of PC Board Relays."

Contact Ratings @ 25°C with relay properly vented. Remove vent nib after soldering and cleaning.

Arrangements: 1 Form A (SPST-NO) and 1 Form C (SPDT).
Material: Silver-cadmium oxide.
Expected Mechanical Life: 20 million operations.
Expected Electrical Life:
  100,000 operations at 8 amps, 240VAC.
  50,000 operations at 14 amps NO / 5 amps NC, 120VAC Res.
  30,000 operations at 7.2 FLA, 45 LRA, 120VAC.
  10,000 operations at 5 FLA, 30 LRA, 240VAC.
  30,000 operations at B300 pilot duty (360VA, 240VAC; 470VA, 120VAC).

Contact Ratings (See Figure 1):
  Maximum Switched Voltage: 380VAC.
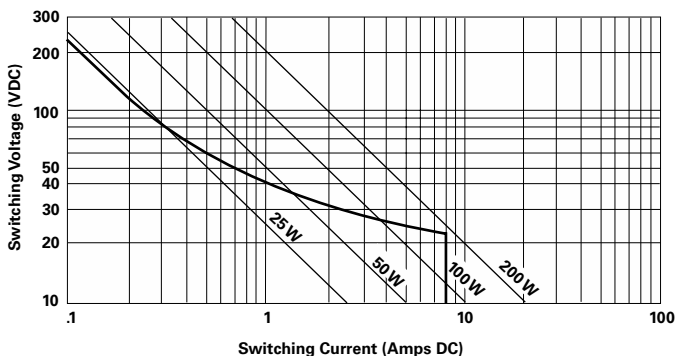 **Maximum Switched Current:** 14/5 (N.O./N.C.) amps, AC resistive; 8 amps DC (see Fig. 1)
  Maximum Switched Power: 200W, DC; 2,000VA, AC.
  Minimum Required Contact Load: 12V, 100mA.
VDE Contact Ratings: 8 amps, 250VAC.
UL/CSA Contact Ratings: 10 amps, 240VAC; 8 amps 24VDC; 1/3 HP, 120VAC; 1/2 HP, 240VAC.

Figure 1 - DC Switching Load Limit Curve

Initial Dielectric Strength

Between Open Contacts: 1,000V rms.
Between Contacts and Coil: 4,000V rms, 8mm.

Coil Data

Voltage: 3 to 60VDC.
Maximum Power @ 25°C: 1W.
Nominal Power @ 25°C: 230mW, typ.
Temperature Rise: 85C° per Watt.
Duty Cycle: Continuous.

Coil Data

	Nominal Voltage	DC Resistance in Ohms ±10%	Must Operate Voltage	Nominal Coil Current (mA)
	3	40	2.1	75.0
	5	118	3.6	42.4
	6	165	4.3	36.4
	9	365	6.4	24.7
DC Coils	12	650	8.5	18.5
	18	1,455	12.8	12.4
	24	2,270	17.2	10.6
	36	5,460	25.4	6.4
	48	8,790	34.5	5.5
	60	15,265	42.8	3.9

Operate Data @ 25°C

Must Operate Voltage: 72% of nom. voltage or less.
Must Release Voltage: 10% of nom. voltage or more.
Operate Time (Excluding Bounce): 6 ms, typ., at nom. voltage.
Release Time (Excluding Bounce): 2.5 ms, typ., at nom. voltage.
Maximum Switching Rate: 20 operations/second.
Maximum Continuous Operating Voltage: 225% of nom. voltage.

Temperature Range

Storage: -40°C to +130°C.
Operating: -40°C to +70°C.

Mechanical Data

Termination: Printed circuit terminals.
Enclosures: Immersion cleanable, plastic sealed case.
Weight: 0.65 oz. (18.5g) approximately.

Dimensions are shown for reference purposes only.

Dimensions are in inches over (millimeters) unless otherwise specified.

Specifications and availability subject to change.

www.tycoelectronics.com
Technical support:
Refer to inside back cover.

Ordering Information

Typical Part Number ▶ | **T75** | **S** | **5** | **D** | **1** | **1** | **2** | **-12**

1. **Basic Series:**
   T75 = Low profile, printed circuit board relay.
2. **Enclosure:**
   S = Immersion cleanable, plastic sealed case.
3. **Contact Arrangement:**
   1 = 1 Form A (SPST-NO)
   5 = 1 Form C (SPDT)
4. **Coil Input:**
   D = DC voltage
5. **Coil Configuration:**
   1 = Single coil, non-latching (monostable)
6. **Mounting and Terminals:**
   1 = Printed circuit terminals
7. **Contact Material:**
   2 = Silver-cadmium oxide (AgCdO)
8. **Coil Voltage:**

03 = 3VDC	06 = 6VDC	12 = 12VDC	24 = 24VDC	48 = 48VDC
05 = 5VDC	09 = 9VDC	18 = 18VDC	36 = 36VDC	60 = 60VDC

Our authorized distributors are more likely to maintain the following items in stock for immediate delivery.
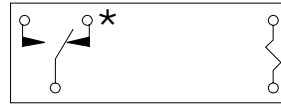
T75S5D112-05
T75S5D112-12
T75S5D112-24

Outline Dimensions

FORM A 1.126 MAX. (28.6)
FORM C 1.181 MAX. (30)

.591 (15)
.150 (3.8)
.394 (10)
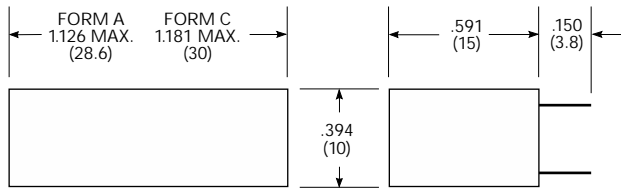
CONTACT TERMINALS: .023 x .040 (.58 x 1.02) REF.
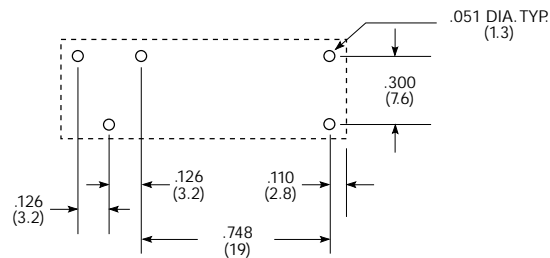COIL TERMINALS: .024 (.61) DIA. REF.

Wiring Diagram (Bottom View)

★ ON SINGLE THROW MODELS, ONLY NECESSARY TERMINALS ARE PRESENT.

PC Board Layouts (Bottom Views)

1 Form C

.051 DIA. TYP. (1.3)
.300 (7.6)
.126 (3.2)
.110 (2.8)
.126 (3.2)
.748 (19)

1 Form A

.051 DIA. TYP. (1.3)
.300 (7.6)
.197 (5)
.110 (2.8)
.748 (19)

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Specifications and availability subject to change.

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