

For new designs refer to V23105.



## T85 series

### High Sensitivity, DIP PC Board Relay

File E45026

File LR35579

#### Features

- Ultra sensitive DC coils through 48 volts.
- Switches up to 2 amps.
- Standard DIP configuration mates with 16-pin socket.
- Bifurcated contacts in a 2 Form C arrangement.
- 1,500 volt surge strength – meets FCC Part 68.
- Well suited for application in telecommunications equipment, audio equipment and business machines.
- Immersion cleanable, plastic sealed case.
- Ultrasonic cleaning is not advised.

#### Contact Data @ 20°C

Contact Style	Series 4	Series 5
<b>Arrangement:</b>	Bifurcated 2 Form C (DPDT)	Bifurcated 2 Form C (DPDT)
<b>Material: Stationary:</b>	Gold overlay silver-palladium alloy	Gold overlay silver-nickel alloy
<b>Movable:</b>	Silver-palladium alloy	Gold overlay silver-nickel alloy
<b>Initial Contact Resistance:</b>	100 milliohms, max. @ 100mA, 6VDC	100 milliohms, max. @ 100mA, 6VDC
<b>Ratings: Max. Switched Current:</b>	1.25A, AC or DC	2A, AC or DC
<b>Max. Switched Voltage:</b>	60VDC, 120VAC	150VDC, 125VAC
<b>Max. Switched Power:</b>	24W or 60VA	30W or 62.5VA
<b>Max. Carry Current:</b>	2A, AC or DC	2A, AC or DC
<b>Min. Switched Current:</b>	10µA, AC or DC	10µA, AC or DC
<b>Min. Switched Voltage:</b>	50µV, AC or DC	50µV, AC or DC
<b>Min. Switched Power:</b>	25µW, AC or DC	25µW, AC or DC
<b>Expected Mechanical Life:</b>	20 million ops.	10 million ops.
<b>Expected Electrical Life:</b>	500,000 operations @ 1A, 24VDC, res. 200,000 operations @ .5A, 120VAC, res.	100,000 operations @ 2A, 30VDC 200,000 operations @ .4A, 120VAC

#### Initial Dielectric Strength

**Between Open Contacts:** 500V rms, 50/60 Hz., for 1 minute.

**Between Poles:** 1,000V rms, 50/60 Hz., for 1 minute.

1,500V rms surge per FCC Part 68.

**Between Coil and Contacts:** 1,000V rms, 50/60 Hz., for 1 minute.

1,500V rms surge per FCC Part 68.

#### Initial Insulation Resistance

**Between Mutually Insulated Conductors:**  $10^9$  ohms @ 500VDC.

#### Coil Data @ 20°C

**Voltage:** 4.5 through 48VDC.

**Nominal Power:** See Coil Data table.

**Maximum Coil Power:** 725 milliwatts, for contact style series 4.  
800 milliwatts, for contact style series 5.

**Temperature Rise:** 110°C per watt, typical.

**Duty Cycle:** Continuous.

#### Coil Data @ 20°C - For Contact Style Series 4

Nominal Voltage (VDC)	Resistance $\pm 10\%$ (Ohms)	Nominal Coil Power (mW)
4.5	135	150
5	167	150
6	240	150
9	540	150
12	960	150
24	2,880	200
48	7,680	300

#### Coil Data @ 20°C - For Contact Style Series 5

Nominal Voltage (VDC)	Resistance $\pm 10\%$ (Ohms)	Nominal Coil Power (mW)
4.5	36	560
5	45	560
6	66	550
9	140	580
12	280	510
24	1,070	540
48	4,000	580

#### Operate Data @ 20°C

**Must Operate Voltage:** 70% of nominal voltage or less.

**Must Release Voltage:** 5% of nominal voltage or more.

**Operate Time (Excluding Bounce)†:** 6 ms, max.

**Release Time (Excluding Bounce)†:** 3 ms, max.

**Operate Bounce:** 3 ms, max.

**Release Bounce:** 4 ms, max.

† At or from Nominal Coil Voltage.

#### Environmental Data

**Temperature Range:** -30°C to +80°C, for contact style series 4.

-40°C to +60°C, for contact style series 5.

**Vibration, Operational:** 10g, 10-55 Hz.

**Shock, Operational:** 10g for 11 ms, 1/2 sine wave.

**Shock, Non-destructive:** 100g for 6 ms, 1/2 sine wave.

#### Mechanical Data

**Termination:** DIP compatible, printed circuit terminals.

**Enclosure:** Sealed PBT plastic case.

**Weight:** 0.16 oz. (4.5g) approximately.

## Ordering Information

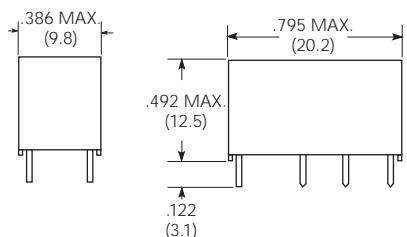
Typical Part Number ►	T85	N	11	D	11	4	-12
<b>1. Basic Series:</b> T85 = Ultra sensitive, DIP PC board relay.							
<b>2. Enclosure:</b> N = Sealed plastic case.							
<b>3. Contact Arrangement:</b> 11 = 2 Form C (DPDT)							
<b>4. Coil Input:</b> D = DC voltage.							
<b>5. Terminals:</b> 11 = Printed circuit terminals.							
<b>6. Contact Style and Material:</b> 4 = Bifurcated, silver-palladium (gold overlay on stationary), 1.25A max. 5 = Bifurcated, silver-nickel (gold overlay on stationary and moveable), 2A max.							
<b>7. Coil Voltage:</b> 04 = 4.5VDC      06 = 6VDC      12 = 12VDC      48 = 48VDC 05 = 5VDC      09 = 9VDC      24 = 24VDC							

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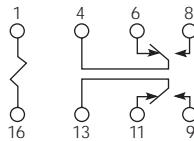
**Stock Items – The following items are normally maintained in stock for immediate delivery.**

T85N11D114-05      T85N11D114-48      T85N11D115-24  
T85N11D114-12      T85N11D115-05  
T85N11D114-24      T85N11D115-12

**Outline Dimensions**



**Wiring Diagrams (Bottom Views)**



**PC Board Layout (Bottom View)**

