

# SDT series

## 10 Amp Miniature Power PC Board Relay

Appliances, HVAC, CTV, Monitor Display

- UL File No. E82292
- CSA File No. LR48471
- SEMKO File No. 9308008
- TUV File No. R9551731
- SEV File No. 97550375

### Features

- Low cost, UL TV-5 rating relay.
- 1 Form A contact arrangement.
- Immersion cleanable, sealed version available.
- Applications include appliance, HVAC, CTV, monitor, emergency lighting.

### Contact Data @ 20°C

**Arrangements:** 1 Form A (SPST-NO)

**Material:** AgSnO.

**Max. Switching Rate:** 300 ops./min. (no load).  
30 ops./min. (rated load).

**Expected Mechanical Life:** 10 million operations (no load).

**Expected Electrical Life:** 100,000 operations (rated load).

**Minimum Load:** 100mA @ 5VDC.

**Initial Contact Resistance:** 100 milliohms @ 1A, 6VDC.

### Contact Ratings

**Ratings:** 5A Tungsten @ 120VAC (TV-5) 25,000ops.  
10A @ 250VAC resistive,  
10A @ 120VAC resistive,  
10A @ 30VDC resistive.

3A @ 250VAC inductive (cosφ= 0.4),  
3A @ 30VDC inductive (L/R=7msec).

**Max. Switched Voltage:** AC: 250V.  
DC: 30V.

**Max. Switched Current:** 10A.

**Max. Switched Power:** 2,500VA, 300W.

### Initial Dielectric Strength

**Between Open Contacts:** 900VAC 50/60 Hz. (1 minute).

**Between Coil and Contacts:** 4,000VAC 50/60 Hz. (1 minute).

**Surge Voltage Between Coil and Contacts:** 10,000V (1.2 / 50μs).

### Initial Insulation Resistance

**Between Mutually Insulated Elements:** 1,000M ohms min. @ 500VDCM.

### Coil Data

**Voltage:** 3 to 48VDC.

**Nominal Power:** 540 mW

**Coil Temperature Rise:** 40°C max., at rated coil voltage.

**Max. Coil Power:** 130% of nominal.

**Duty Cycle:** Continuous.

### Coil Data @ 20°C

SDT				
Rated Coil Voltage (VDC)	Nominal Current (mA)	Coil Resistance (ohms) ± 10%	Must Operate Voltage (VDC)	Must Release Voltage (VDC)
3	178.5	17	2.25	0.30
5	106.4	47	3.75	0.50
6	88.0	68	4.50	0.60
9	58.0	155	6.75	0.90
12	44.4	270	9.00	1.20
24	21.8	1,100	18.00	2.40
48	10.9	4,400	36.00	4.80

### Operate Data

**Must Operate Voltage:** 75% of nominal voltage or less.

**Must Release Voltage:** 10% of nominal voltage or more.

**Operate Time:** 15 ms max.

**Release Time:** 8 ms max.

### Environmental Data

**Temperature Range:**

**Operating:** -30°C to +70°C

**Vibration, Mechanical:** 10 to 55 Hz., 1.5mm double amplitude

**Operational:** 10 to 55 Hz., 1.5mm double amplitude.

**Shock, Mechanical:** 1,000m/s<sup>2</sup> (100G approximately).

**Operational:** 100m/s<sup>2</sup> (10G approximately).

**Operating Humidity:** 20 to 85% RH. (Non-condensing).

### Mechanical Data

**Termination:** Printed circuit terminals.

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

**SDT-SS:** Vented (Flux-tight) plastic cover

**SDT-SH:** Sealed plastic case

**Weight:** 0.39 oz (11g) approximately.

**Ordering Information**

Typical Part Number ▶

**SDT**

**-SS**

**-1**

**12**

**D**

**M**

**1. Basic Series:**

SDT = Miniature Power PC board relay.

**2. Enclosure:**

SS = Vented (Flux-tight) \* plastic cover.  
SH = Sealed, plastic case.

**3. Termination:**

1 = 1 pole

**4. Coil Voltage:**

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

**5. Coil Input:**

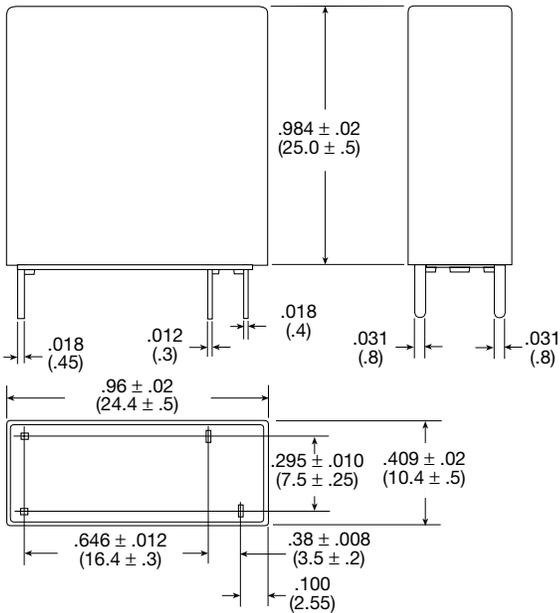
D = Standard

**6. Contact Arrangement:**

M = 1 Form A, SPST-NO

\* Not suitable for immersion cleaning processes.

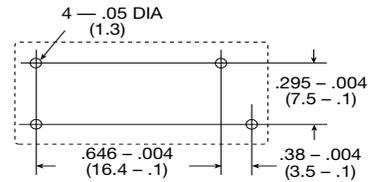
**Outline Dimensions**



**Wiring Diagram (Bottom View)**

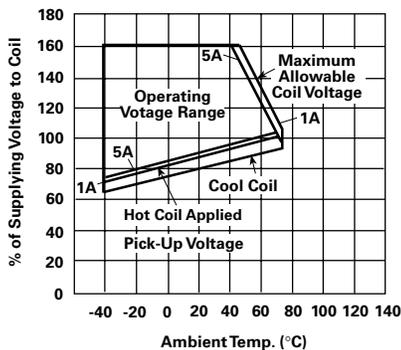


**PC Board Layout (Bottom View)**

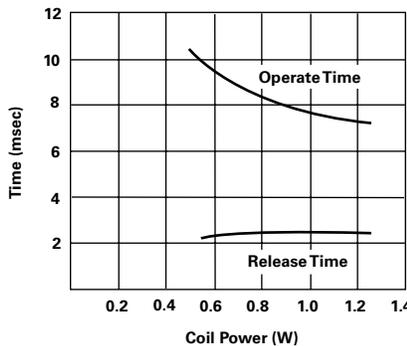


**Reference Data**

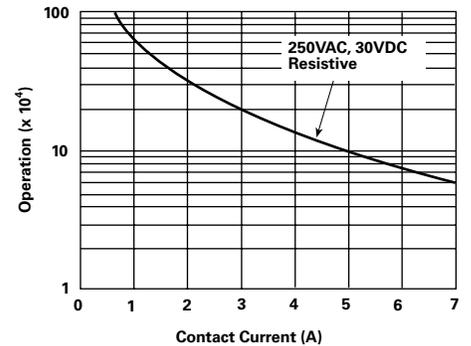
**Operating Voltage**



**Operate Time**



**Life Expectancy**



**Note:** This data is based on the max. allowable temperature for E type insulation coil (115°C).