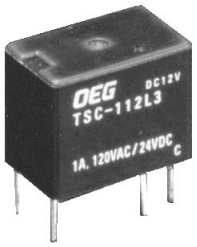
TSC series



Miniature, Sealed PC Board Relay

Telecommunications, Appliances, Office Machines

UL File No. E82292
CSA File No. 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

- Designed for thermostat, modem, computer peripherals, video recording and security applications.
- 1 Form C contact arrangement.
- Low coil power requirement for IC compatibility.
- Terminals arrangement on grid pattern.

Contact Data @ 20°C

Arrangements: 1 Form C (SPDT).
Material: Gold overlay Silver Nickel Alloy.
Max. Switching Rate: 300ops./ min. (no load).
30ops./ min. (rated load).
Expected Mechanical Life: 5 million ops (no load).
Expected Electrical Life: 100,000 ops (rated load).
Minimum Load: 1mA @ 1VDC.
Initial Contact Resistance: 50 milliohms @ 100mA, 6VDC.

Contact Ratings

Ratings: 1A @ 24VDC resistive.
1A @ 120VAC resistive.
Max. Switched Voltage: **AC:** 120V.
DC: 30V.
Max. Switched Current: 1A.
Max. Switched Power: 120VA, 24W.

Initial Dielectric Strength

Between Open Contacts: 400VAC, 50/60 Hz. (1 min.).
Between Contacts and Coil: 1,000VAC, 50/60 Hz. (1 min.).
Note: Consult factory for higher dielectric version: 1,500VAC, 50/60 Hz. (1 min.).
Surge Voltage Between Coil and Contacts: 1,500V FCC Part 68 (10/160µs).

Initial Insulation Resistance

Between Mutually Insulated Conductors: 1,000Mohm @ 500VDCM.

Coil Data

Voltage: 5 to 24VDC.
Duty Cycle: Continuous.
Nominal Power: **TSC-L:** 150mW.
TSC-D: 300mW.
Max. Coil Power: **TSC-L:** 140% of nominal at 70°C.
TSC-D: 115% of nominal at 70°C.

Coil Data @ 20°C

TSC-L Sensitive				
Rated Coil Voltage (VDC)	**Nominal Current (mA)**	**Coil Resistance (ohms) ± 10%**	**Must Operate Voltage (VDC)**	**Must Release Voltage (VDC)**
5	30.0	166	3.75	0.25
6	25.0	240	4.50	0.30
9	16.7	540	6.75	0.45
12	12.5	960	9.00	0.60
24	6.3	3,840	18.00	1.20

TSC-D Standard				
Rated Coil Voltage (VDC)	**Nominal Current (mA)**	**Coil Resistance (ohms) ± 10%**	**Must Operate Voltage (VDC)**	**Must Release Voltage (VDC)**
5	60.0	83	3.75	0.25
6	50.0	120	4.50	0.30
9	33.4	270	6.75	0.45
12	25.0	480	9.00	0.60
24	12.5	1,920	18.00	1.20

Operate Data @ 20°C

Must Operate Voltage: 75% of nominal voltage or less.
Must Release Voltage: 5% of nominal voltage or more.
Operate Time: 5ms max.
Release Time: 5ms max.

Environmental Data

Temperature Range:
Operating: -40°C to +80°C.
Vibration, Mechanical: 10 to 55Hz., 1.5mm double amplitude.
Operational: 10 to 55Hz., 1.5mm double amplitude.
Shock, Mechanical: 500m/s² (50G approximately).
Operational: 100m/s² (10G approximately).
Operating Humidity: 45 to 85% RH. (Non-condensing)

Mechanical Data

Termination: Printed circuit terminals.
Enclosure: Plastic sealed case.
Weight: 0.1 oz (3g) approximately.

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Ordering Information

Typical Part Number ▶	TSC	-1	05	L	3	H	,000

1. Basic Series:
TSC = Miniature relay

2. Termination:
1 = 1 pole

3. Coil Voltage:
05 = 5VDC 09 = 9VDC 24 = 24VDC
06 = 6VDC 12= 12VDC

4. Coil Input:
L = Sensitive D = Standard

5. Contact Material:
3 = Silver Nickel

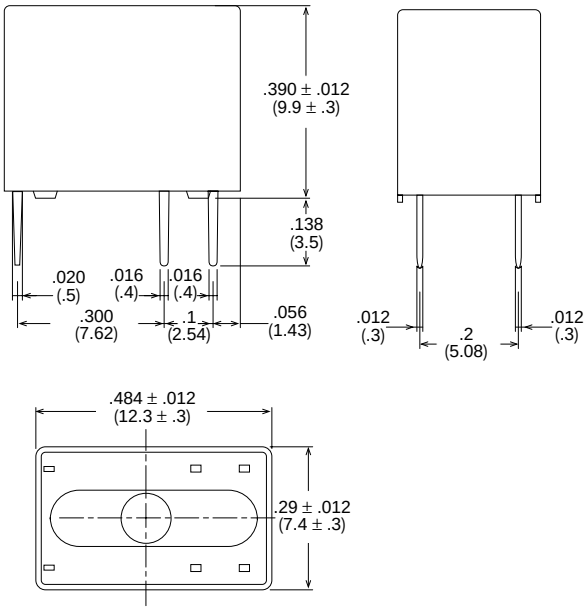
6. Enclosure:
Blank = Vented (Flux-tight) cover H = Sealed plastic case

7. Suffix:
,000 = Standard model Other Suffix = Custom model

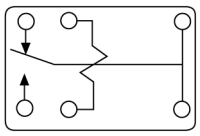
Our authorized distributors are more likely to stock the following items for immediate delivery.

TSC-105L3H,000 TSC-124L3H,000 TSC-112D3H,000
TSC-112L3H,000 TSC-105D3H,000 TSC-124D3H,000

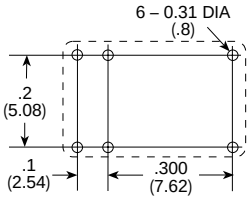
Outline Dimensions



Wiring Diagram (Bottom View)

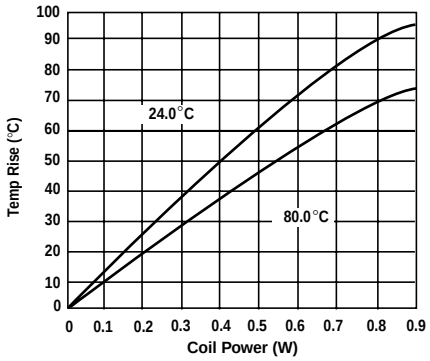


PC Board Layout (Bottom View)

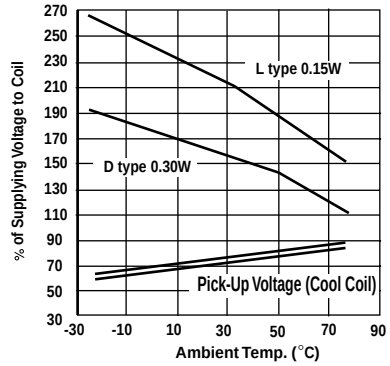


Reference Data

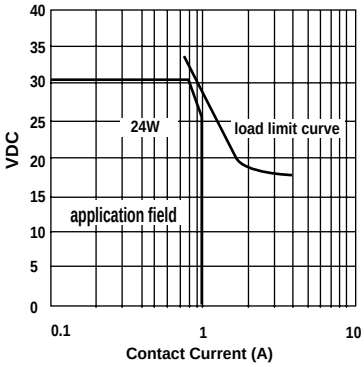
Coil Temperature Rise



Ambient Temp. & Operate Voltage



Load Limit Curve



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.

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