

## Features

- Miniature size $18.2 \times 10.2 \times 14.7 \mathrm{~h}$.
- 1 Form A (SPST-NO) contact arrangement.
- Designed to meet UL, CSA, VDE, TUV requirements.
- Designed to meet 4kV dielectric between coil and contacts ( OJ ).
- Sensitive and standard coils available.
- Immersion cleanable, sealed version available.


## Contact Data @ $20^{\circ} \mathrm{C}$

Arrangements: 1 Form A (SPST-NO).
Material: Ag, Ag Alloy.
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: OJ/OJE-LM: 3A @ 250VAC resistive,
3A @ 28VDC resistive.
OJ/OJE-LMH: 8A @ 250VAC resistive, 8A @ 28VDC resistive.
OJ/OJE-DM: 5A @ 250VAC resistive, 5A @ 28VDC resistive.
OJ/OJE-HM: 10A @ 250VAC resistive, 10A @ 28VDC resistive.
Max. Switched Voltage: AC: 265V.
DC: 30 V .
Max. Switched Power:
OJ/OJE-LM: 720VA, 90W
OJ/OJE-LMH: 1,800VA, 200W
OJ/OJE-DM: 1,200VA, 150W
OJ/OJE-HM: 2,500VA, 280W
Note: Consult factory regarding TV-5 rated models.

## Initial Dielectric Strength

## Between Open Contacts:

OJ: 750 VAC $50 / 60 \mathrm{~Hz}$. (1 minute).
OJE: 750VAC $50 / 60 \mathrm{~Hz}$. (1 minute).
Between Coil and Contacts:
OJ: $\quad 4,000 \mathrm{VAC} 50 / 60 \mathrm{~Hz}$. (1 minute).
OJE: 3,000VAC $50 / 60 \mathrm{~Hz}$. (1 minute).
Surge Voltage Between Coil and Contacts:
OJ: 10,000V (1.2/50 $\mu \mathrm{s}$ ).
OJE: 5,000V (1.2/50 $\mu \mathrm{s}$ ).

## Initial Insulation Resistance

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

## Coil Data

Voltage: 5 to 48VDC.
Nominal Power: OJ/OJE-LM and LMH: 200 mW . OJ/OJE-DMand HM: 450 mW .
Coil Temperature Rise:
OJ/OJE-LM and LMH : $30^{\circ} \mathrm{C}$ max., at rated coil voltage.
OJ/OJE-DM and HM: $40^{\circ} \mathrm{C}$ max., at rated coil voltage.
Max. Coil Power: 130\% of nominal.
Duty Cycle: Continuous.

O /O Eseries

## 3-10 Amp Miniature, PC Board Relay

## Appliances, HVAC, Industrial Control.

군 UL File No. E82292
(18 CSA File No. LR48471
(10eE VDE File No. 10080
$\triangle$ TUV File No. R75081
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.

## Coil Data @ $\mathbf{2 0}^{\circ} \mathrm{C}$

| OJ/OJE-L Sensitive |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: |
| Rated Coil Voltage (VDC) | Nominal Current (mA) | Coil Resistance (ohms) $\pm$ 10\% | Must Operate Voltage (VDC) | Must Release Voltage (VDC) |
| 5 | 40.0 | 125 | 3.75 | 0.25 |
| 6 | 33.3 | 180 | 4.50 | 0.30 |
| 9 | 22.5 | 400 | 6.75 | 0.45 |
| 12 | 16.7 | 720 | 9.00 | 0.60 |
| 24 | 8.6 | 2,800 | 18.00 | 1.20 |
| OJ/OJE-D and -H Standard |  |  |  |  |
| Rated Coil Voltage (VDC) | Nominal Current (mA) | Coil <br> Resistance (ohms) $\pm$ 10\% | Must Operate Voltage (VDC) | Must Release Voltage (VDC) |
| 5 | 91.0 | 55 | 3.50 | 0.25 |
| 6 | 75.0 | 80 | 4.20 | 0.30 |
| 9 | 50.0 | 180 | 6.30 | 0.45 |
| 12 | 37.5 | 320 | 8.40 | 0.60 |
| 24 | 18.8 | 1,280 | 16.80 | 1.20 |
| 48 | 9.4 | 5,100 | 33.60 | 2.40 |

## Operate Data

Must Operate Voltage:
OJ/OJE -L: 75\% of nominal voltage or less.
OJ/OJE -D and -H: 70\% of nominal voltage or less.
Must Release Voltage:
OJ/OJE -L: 5\% of nominal voltage or more.
OJ/OJE -D and -H: $5 \%$ of nominal voltage or more.
Operate Time: OJ/OJE -L: 15 ms max.
OJ/OJE -D and -H: 10 ms max.
Release Time: 4 ms max.

## Environmental Data

Temperature Range:
Operating: OJ/OJE-L: $-30^{\circ} \mathrm{C}$ to $+80^{\circ} \mathrm{C}$
OJ/OJE-D and $-\mathrm{H}:-30^{\circ} \mathrm{C}$ to $+60^{\circ} \mathrm{C}$.
Vibration, Mechanical: 10 to $55 \mathrm{~Hz} ., 1.5 \mathrm{~mm}$ double amplitude
Operational: 10 to $55 \mathrm{~Hz} ., 1.5 \mathrm{~mm}$ double amplitude.
Shock, Mechanical: 1,000m/s² (100G approximately).
Operational: $100 \mathrm{~m} / \mathrm{s}^{2}$ (10G approximately).
Operating Humidity: 20 to 85\% RH. (Non-condensing).

## Mechanical Data

Termination: Printed circuit terminals.
Enclosure (94V-0 Flammability Ratings):
OJ/OJE-SS: Vented (Flux-tight), plastic cover.
OJ/OJE-SH: Sealed, plastic case.
Weight: $0.32 \mathrm{oz}(9 \mathrm{~g})$ approximately.

## Ordering Information



* Not suitable for immersion cleaning processes.
** For higher contact rating with sensitve coil, add suffix " H " to the end of the part number as indicated in step 7 of Ordering Information.

Our authorized distributors are more likely to stock the following items for immediate delivery.
OJ -SH-105HM ,095
OJ E-SH-105DM ,095
OJ E-SH-112HM,095
OJ E-SH-124LMH,095
OJ -SH-112LMH,095
OJ E-SH-112DM,095
OJ E-SH-105LMH,095
OJ -SH-124LMH,095
OJ E-SH-124DM,095
OJ E-SH-112LMH,095

## Outline Dimensions



## Wiring Diagram (Bottom View)



PC Board Layout (Bottom View)


## Reference Data

Coil Temperature Rise


## Operate Time



Life Expectancy


| Dimensions are in inches over | Specifications and availability |
| :--- | :--- |
| (millimeters) unless otherwise | subject to change. |
| specified. |  |

