

OJ/OJE series

3-10 Amp Miniature, PC Board Relay

Appliances, HVAC, Industrial Control.

- UL File No. E82292
- CSA File No. LR48471
- VDE File No. 10080
- TUV File No. R75081

Features

- Miniature size 18.2 x 10.2 x 14.7h.
- 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°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: 30V.

- 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

Initial Dielectric Strength

- Between Open Contacts:**
OJ: 750VAC 50/60 Hz. (1 minute).
OJE: 750VAC 50/60 Hz. (1 minute).

- Between Coil and Contacts:**
OJ: 4,000VAC 50/60 Hz. (1 minute).
OJE: 3,000VAC 50/60 Hz. (1 minute).

- Surge Voltage Between Coil and Contacts:**
OJ: 10,000V (1.2/50µs).
OJE: 5,000V (1.2/50µs).

Initial Insulation Resistance

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

Coil Data

- Voltage:** 3 to 48VDC.
Nominal Power: **OJ/OJE-LM and LMH:** 200 mW.
OJ/OJE-DM and HM: 450 mW.
Coil Temperature Rise:
OJ/OJE-LM and LMH: 30°C max., at rated coil voltage.
OJ/OJE-DM and HM: 40°C max., at rated coil voltage.
Max. Coil Power: 130% of nominal.
Duty Cycle: Continuous.

Coil Data @ 20°C

OJ/OJE-L Sensitive				
Rated Coil Voltage (VDC)	Nominal Current (mA)	Coil Resistance (ohms) ± 10%	Must Operate Voltage (VDC)	Must Release Voltage (VDC)
3	66.7	45	2.25	0.15
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 Resistance (ohms) ± 10%	Must Operate Voltage (VDC)	Must Release Voltage (VDC)
3	150.0	20	2.10	0.15
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°C to +80°C
OJ/OJE-D and -H: -30°C to +60°C.
- Vibration, Mechanical:** 10 to 55 Hz., 1.5mm double amplitude
Operational: 10 to 55 Hz., 1.5mm double amplitude.
- Shock, Mechanical:** 1,000m/s² (100G approximately).
Operational: 100m/s² (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 oz (9g) approximately.

Ordering Information

Typical Part Number ▶

OJE

-SS

-1

12

L

M

1. Basic Series:

OJ = 4kV dielectric, coil and contacts.
OJE = 3kV dielectric, coil and contacts.

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/Contact Rating:

L = Sensitive (200mW) Coil, 3A Contacts** D = Standard (450mW) Coil, 5A Contacts H = Standard (450mW) Coil, 10A Contacts

6. Contact Arrangement:

M = 1 Form A, SPST-NO

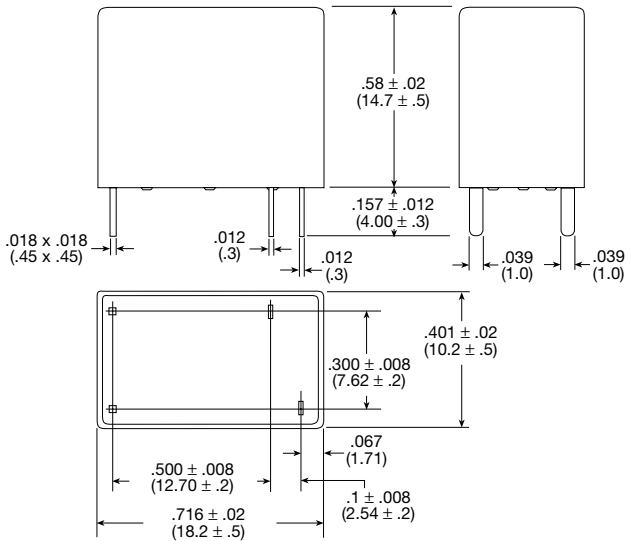
7. High Capacity Contact Rating Option for Sensitive Coil:

H = 8A Contacts (Only available with Coil Input/Contact Rating code "L").

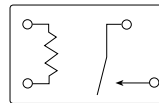
* Not suitable for immersion cleaning processes.

** For higher contact rating with sensitive coil, add suffix "H" to the end of the part number as indicated in step 7 of Ordering Information.

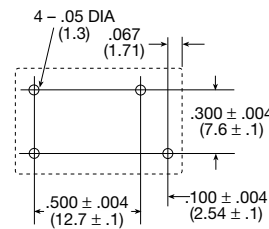
Outline Dimensions



Wiring Diagram (Bottom View)

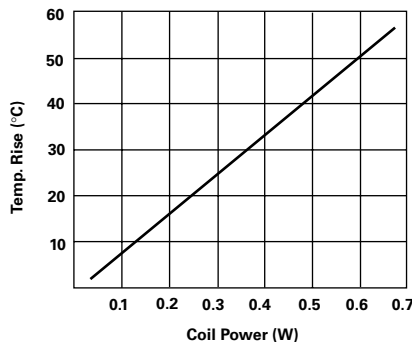


PC Board Layout (Bottom View)

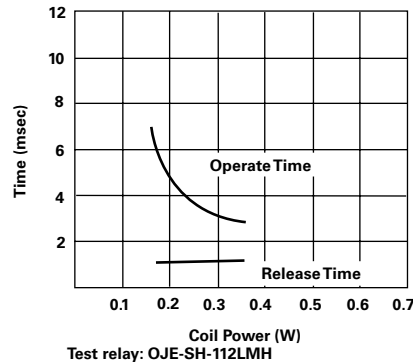


Reference Data

Coil Temperature Rise



Operate Time



Life Expectancy

