



# OZ/OZF series

## 16A Miniature Power PC Board Relay

Appliances, HVAC, Office Machines.

UL File No. E82292

CSA File No. LR48471

TUV File No. R85447

### Features

- Meet UL 508, CSA and TUV requirements.
- 1 Form A and 1 Form C contact arrangements.
- Immersion cleanable, sealed version available.
- Meet 5,000V dielectric voltage between coil and contacts.
- Meet 10,000V surge voltage between coil and contacts (1.2 / 50µs).
- Quick Connect Terminal type available (OZF).
- UL TV-8 rating available (OZT).

### Contact Data @ 20°C

**Arrangements:** 1 Form A (SPST-NO) and 1 Form C (SPDT).

**Material:** Ag Alloy (1 Form C) and AgSnO (1 Form A).

**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: OZ/OZF:** 20A @ 120VAC resistive,  
16A @ 240VAC resistive,  
5A @ 120VAC inductive (cosφ= 0.4),  
5A @ 24VDC inductive ( L/R= 7msec).

**OZT:** 8A @ 240VAC resistive,  
TV-8 @ 120VAC tungsten, 25,000ops.

**Max. Switched Voltage: AC:** 240V.

**DC:** 110V.

**Max. Switched Current:** 16A (OZ/OZF), 8A (OZT).

**Max. Switched Power:** 3,850VA, 600W.

### Initial Dielectric Strength

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

**Between Coil and Contacts:** 5,000VAC 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:** 720 mW (OZ-D), 540mW (OZ-L).

**Coil Temperature Rise:** 45°C max., at rated coil voltage.

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

**Duty Cycle:** Continuous.

### Coil Data @ 20°C

OZ-L Sensitive				
Rated Coil Voltage (VDC)	Nominal Current (mA)	Coil Resistance (ohms) ± 10%	Must Operate Voltage (VDC)	Must Release Voltage (VDC)
3	176.5	17	2.25	0.15
5	106.4	47	3.75	0.25
6	88.0	68	4.50	0.30
9	58.0	155	6.75	0.45
12	44.4	270	9.00	0.60
24	21.8	1,100	18.00	1.20
48	10.9	4,400	36.00	2.40
OZ-D Standard				
Rated Coil Voltage (VDC)	Nominal Current (mA)	Coil Resistance (ohms) ± 10%	Must Operate Voltage (VDC)	Must Release Voltage (VDC)
3	240.0	12.5	2.10	0.15
5	138.9	36	3.50	0.25
6	120.0	50	4.20	0.30
9	78.3	115	6.30	0.45
12	60.0	200	8.40	0.90
24	29.3	820	16.80	1.20
48	14.5	3,300	33.60	2.40

### Operate Data

**Must Operate Voltage:**

**OZ-D:** 70% of nominal voltage or less.

**OZ-L:** 75% of nominal voltage or less.

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

**Operate Time: OZ-D:** 15 ms max.

**OZ-L:** 20 ms max.

**Release Time:** 8 ms max.

### Environmental Data

**Temperature Range:**

**Operating: OZ-D:** -30°C to +55°C

**OZ-L:** -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):**

**OZ-S:** Vented (Flux-tight) plastic cover.

**OZF-SS:** Vented (Flux-tight) plastic cover.

**OZ-SH:** Sealed plastic case.

**Weight:** 0.46 oz (13g) approximately.

**Ordering Information**

Typical Part Number ▶

**OZ**    **-SS**    **-1**    **24**    **L**    **M**    **1**

**1. Basic Series:**

OZ = 16A PC Board Terminals  
 OZF = Quick Connect Terminals  
 OZT = TV-8 Rating PC Board Terminals

**2. Enclosure:**

S = Vent (Flux-tight)\* plastic cover (only available with OZF)  
 SS = Vent (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 (720mW)    L = Sensitive (540mW)

**6. Contact Arrangement:**

Blank = 1 Form C, SPDT    M = 1 Form A, SPST-NO

**7. Contact Material:**

Blank = AgCdO (1 Form C)    1 = AgSnO (1 Form A, only available with OZ....LM1 or DM1)

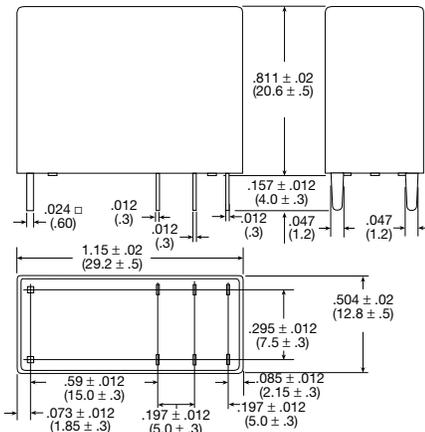
**8. Mounting and Termination:**

Blank = PC Board Terminals    P = PC Board and Quick Connect Terminals (only available only with OZF-S-1..LM1P).

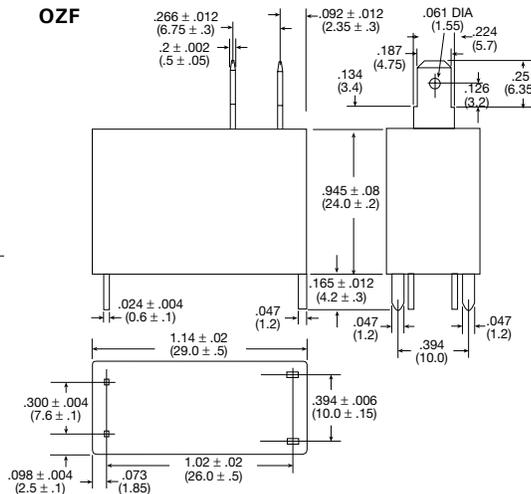
\* Not suitable for immersion cleaning processes.

**Outline Dimensions**

**OZ**

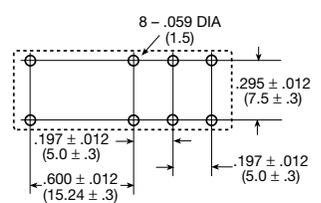


**OZF**

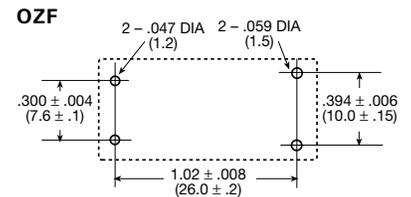


**PC Board Layouts (Bottom View)**

**OZ**

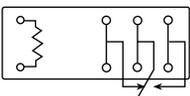


**OZF**



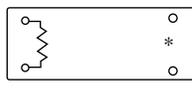
**Wiring Diagrams**

**OZ**



(Bottom View)

**OZF**



(Bottom View)

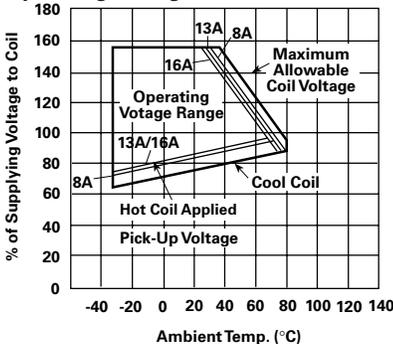


(Top View)

\* No electrical connection, for board attachment only.

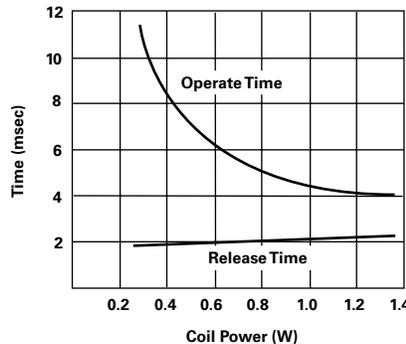
**Reference Data**

**Operating Voltage**



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

**Operate Time**



**Life Expectancy**

