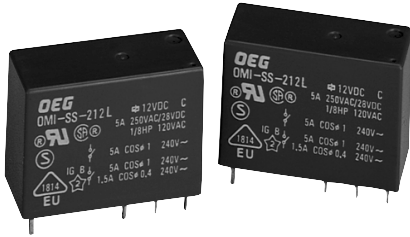




# THE DATASHEET OF OMI-SH-248L





# OMI 2 Pole series

## 2 Pole Miniature Power PC Board Relay

Appliances, HVAC, Office Machines.

UL File No. E58304

CSA File No. LR48471

VDE File No. 6678

SEMKO File No. 9517235

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

- Meet UL 508, VDE0435 and SEMKO requirements.
- 2 Form A and 2 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).

### Contact Data @ 20°C

**Arrangements:** 2 Form A (DPST-NO) and 2 Form C (DPDT).

**Material:** 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:** 5A @ 240VAC resistive,  
5A @ 120VAC resistive,  
5A @ 30VDC resistive,  
1/8 HP @ 250VAC.

1.5A @ 240VAC inductive (cosφ = 0.4),  
1.5A @ 120VAC inductive (cosφ = 0.4),  
1.5A @ 24VDC inductive (L/R=7msec).

**Max. Switched Voltage:** AC: 240V.  
DC: 30V.

**Max. Switched Current:** 5A.

**Max. Switched Power:** OMI: 1,200VA, 150W.

### 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:** 5 to 48VDC.

**Nominal Power:** 720mW (OMI-D), 540mW (OMI-L).

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

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

**Duty Cycle:** Continuous.

### Coil Data @ 20°C

OMI-L Sensitive				
Rated Coil Voltage (VDC)	Nominal Current (mA)	Coil Resistance (ohms) ± 10%	Must Operate Voltage (VDC)	Must Release Voltage (VDC)
5	106.4	47	4.00	0.50
6	88.0	68	4.80	0.60
9	58.0	155	7.20	0.90
12	44.4	270	9.60	1.20
24	21.8	1,100	19.20	2.40
48	10.9	4,400	38.40	4.80
OMI-D Standard				
Rated Coil Voltage (VDC)	Nominal Current (mA)	Coil Resistance (ohms) ± 10%	Must Operate Voltage (VDC)	Must Release Voltage (VDC)
5	138.9	36	3.75	0.50
6	120.0	50	4.50	0.60
9	78.3	115	6.75	0.90
12	60.0	200	9.00	1.20
24	29.3	820	18.00	2.40
48	14.5	3,300	36.00	4.80

### Operate Data

**Must Operate Voltage:**

OMI-D: 75% of nominal voltage or less.

OMI-L: 80% of nominal voltage or less.

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

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

OMI-L: 20 ms max.

**Release Time:** 8 ms max.

### Environmental Data

**Temperature Range:**

**Operating:** OMI-D:  
-30°C to +55°C

OMI-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> (10G 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):**

OMI-SS: Vented (Flux-tight) plastic cover.

OMI-SH: Sealed plastic case.

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

**Ordering Information**

Typical Part Number ► **OMI -SS -2 12 L M ,594**

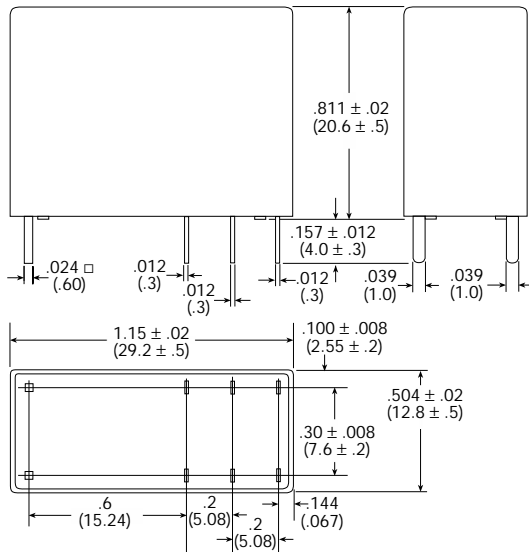
<b>1. Basic Series:</b> OMI = 2 Pole Miniature Power PC Board Relay.		
<b>2. Enclosure:</b> SS = Vent (Flux-tight)* plastic cover. SH = Sealed, plastic case.		
<b>3. Termination:</b> 2 = 2 pole		
<b>4. Coil Voltage:</b> 05 = 5VDC      09 = 9VDC      24 = 24VDC 06 = 6VDC      12 = 12VDC      48 = 48VDC		
<b>5. Coil Input:</b> D = Standard (720mW)      L = Sensitive (540mW)		
<b>6. Contact Arrangement:</b> Blank = 2 Form C, DPDT      M = 2 Form A, DPST-NO		
<b>7. Suffix:</b> ,500 = Standard model for "SS" enclosure      ,594 = Standard model for "SH" enclosure      Other Suffix = Custom model		

\* Not suitable for immersion cleaning processes.

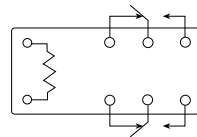
**Our authorized distributors are more likely to stock the following items for immediate delivery.**

- OMI-SH-205D,594    OMI-SH-205L,594
- OMI-SH-212D,594    OMI-SH-212L,594
- OMI-SH-224D,594    OMI-SH-224L,594

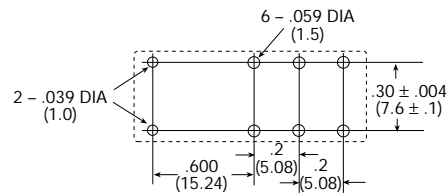
**Outline Dimensions**



**Wiring Diagram (Bottom View)**

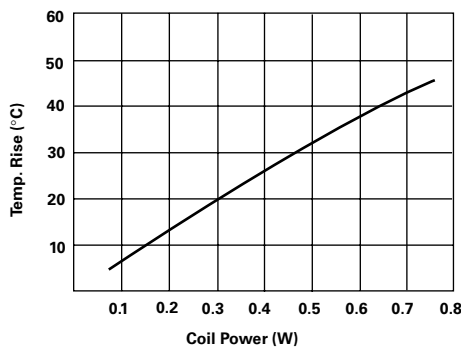


**PC Board Layout (Bottom View)**

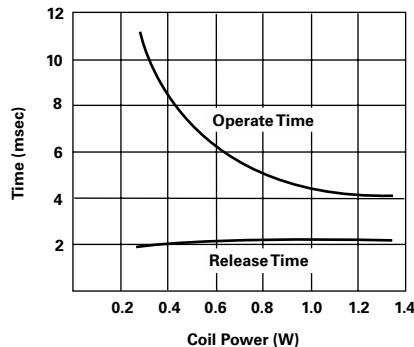


**Reference Data**

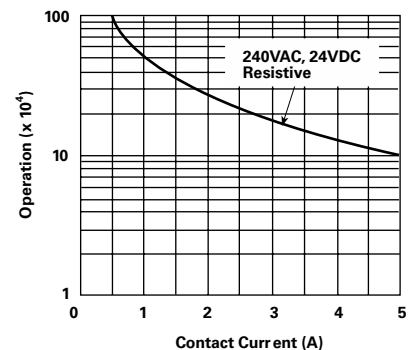
**Coil Temperature Rise**



**Operate Time**



**Life Expectancy**



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.

## Looking for pricing, stock, or lifecycle information?

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