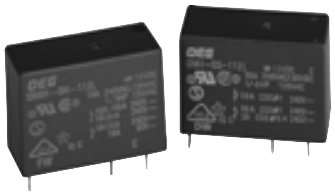
OMI/OMIH series

16A 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 (OMI)
  9143112 (OMIH)

Features

- Meet UL 508, VDE0435 and SEMKO 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).

Contact Data @ 20°C

Arrangements: 1 Form A (SPST-NO) and 1 Form C (SPDT).
Material: Ag Alloy (OMI), AgSnO (OMIH).
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: OMI: 10A @ 240VAC resistive,
10A @ 30VDC resistive,
3A @ 240VAC inductive (cosø= 0.4),
3A @ 30VDC inductive (L/R=7msec).
OMIH: 16A @ 240VAC resistive,
16A @ 30VDC resistive,
4A @ 240VAC inductive (cosø= 0.4),
4A @ 24VDC inductive (L/R=7msec).

Max. Switched Voltage: AC: 250V.
DC: 30V.
Max. Switched Current: 10A (OMI), 16A (OMIH).
Max. Switched Power: OMI: 2,400VA, 300W.
OMIH: 3,800VA, 480W.

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 (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/OMIH-L Sensitive				
Rated Coil Voltage (VDC)	**Nominal Current (mA)**	**Coil Resistance (ohms) ± 10%**	**Must Operate Voltage (VDC)**	**Must Release Voltage (VDC)**
3	126.5	17	2.25	0.30
5	106.4	47	3.75	0.50
6	88.0	68	4.50	0.60
9	58.0	155	6.75	0.90
12	44.4	270	9.00	1.20
24	21.8	1,100	18.00	2.40
48	10.9	4,400	36.00	4.80
OMI/OMIH-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	0.30
5	138.9	36	3.50	0.50
6	120.0	50	4.20	0.60
9	78.3	115	6.30	0.90
12	60.0	200	8.40	1.20
24	29.3	820	16.80	2.40
48	14.5	3,300	33.60	4.80

Operate Data

Must Operate Voltage:
OMI/OMIH-D: 70% of nominal voltage or less.
OMI/OMIH-L: 75% of nominal voltage or less.
Must Release Voltage: 5% of nominal voltage or more.
Operate Time: OMI/OMIH-D: 15 ms max.
OMI/OMIH-L: 20 ms max.
Release Time: 8 ms max.

Environmental Data

Temperature Range:
Operating: OMI/OMIH-D:
-30°C to +55°C
OMI/OMIH-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/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):
OMI/OMIH-SS: Vented (Flux-tight) plastic cover.
OMI/OMIH-SH: Sealed plastic case.
Weight: 0.46 oz (13g) approximately.

Ordering Information

Typical Part Number ▶	OMI	-SS	-1	24	L	M

1. Basic Series:
OMI = 10A rating OMIH = 16A rating

2. Enclosure:
SS = Vent (Flux-tight)* plastic cover.
SH = Sealed, plastic case.

3. Termination:
1 = 1 pole

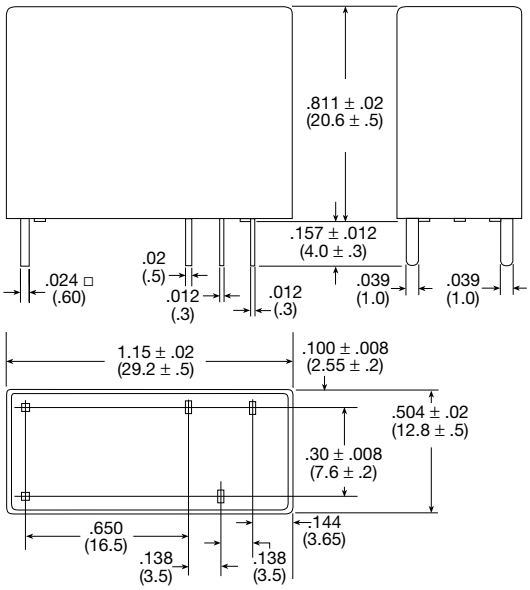
4. Coil Voltage:
03 = 3VDC 06 = 6VDC 12 = 12VDC 48 = 48VDC
05 = 5VDC 09 = 9VDC 24 = 24VDC

5. Coil Input:
D = Standard (720mW) L = Sensitive (540mW)

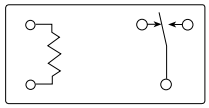
6. Contact Arrangement:
Blank = 1 Form C, SPDT M = 1 Form A, SPST-NO

* Not suitable for immersion cleaning processes.

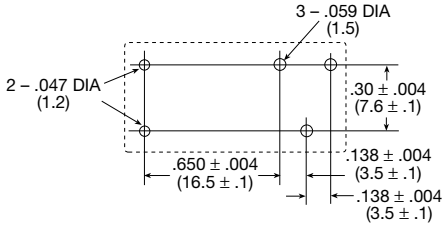
Outline Dimensions



Wiring Diagram (Bottom View)

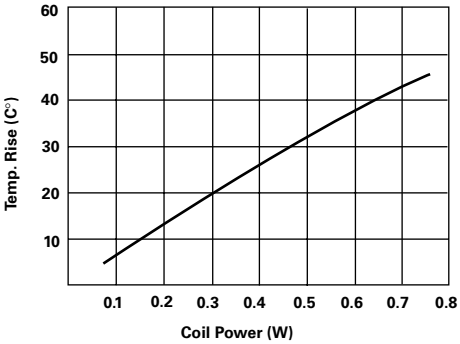


PC Board Layout (Bottom View)

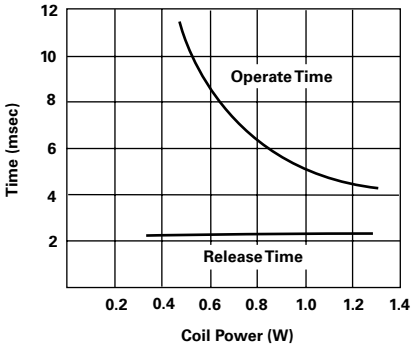


Reference Data

Coil Temperature Rise



Operate Time



Life Expectancy