



ORWH series

10 Amp Miniature Power PC Board Relay

UL US File No. E82292



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

- Compact relay with 1 Form A and 1 Form C contact arrangements.
- 10 Amp switching capacity.
- Flux-tight or sealed version available.
- Applications include appliance, HVAC, security system, garage opener control, emergency lighting.

Contact Data @ 20°C

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

Material: AgCdO.

Max. Switching Rate: 300 ops./min. (no load).
20 ops./min. (rated load).

Expected Mechanical Life: 10 million operations (no load).

Expected Electrical Life: 100,000 operations at 10A @ 250VAC res. (NO).

Minimum Load: 100mA @ 5VDC.

Initial Contact Resistance: 100 milliohms @ 1A, 6VDC.

Contact Ratings

Ratings: 10A/6A @ 250VAC resistive (NO/NC),
10A/6A @ 28VDC resistive (NO/NC),
15A @ 120VAC resistive (NO),
15A @ 28VDC resistive (NO),
10A @ 277VAC resistive (NO).

Max. Switched Voltage: AC: 277V.
DC: 30V.

Max. Switched Current: 15A.

Max. Switched Power: 2,770VA, 360W.

Initial Dielectric Strength

Between Open Contacts: 750VAC 50/60 Hz. (1 minute).

Between Coil and Contacts: 1,500VAC 50/60 Hz. (1 minute).

Surge Voltage Between Coil and Contacts: 3,000V (1.2 / 50μs).

Initial Insulation Resistance

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

Coil Data @ 20°C

Voltage: 3 to 48VDC.

Nominal Power: 360 mW

Max. Coil Power: 130% of nominal.

Duty Cycle: Continuous.

Coil Data @ 20°C

ORWH				
Rated Coil Voltage (VDC)	Nominal Current (mA)	Coil Resistance (ohms) ± 10%	Must Operate Voltage (VDC)	Must Release Voltage (VDC)
3	120.0	25	2.1	0.3
5	71.4	70	3.5	0.5
6	60.0	100	4.2	0.6
9	44.4	225	6.3	0.9
12	40.0	400	8.4	1.2
24	15.0	1,600	16.8	2.4
48	7.5	6,400	33.6	4.8

Operate Data

Must Operate Voltage: 70% of nominal voltage or less.

Must Release Voltage: 10% of nominal voltage or more.

Operate Time: 10 ms max.

Release Time: 5 ms max.

Environmental Data

Temperature Range:

Operating: -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 (10G 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):

ORWH-SS: Vented (flux-tight) cover.

ORWH-SH: Sealed plastic case. Note: Vent nib should be removed after soldering and cleaning.

Weight: 0.33 oz (9.5g) approximately.

Ordering Information

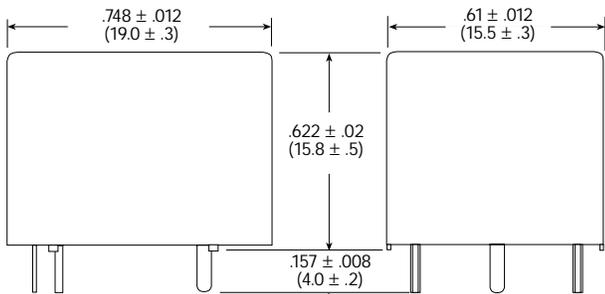
Typical Part Number ▶	ORWH	-SS	-1	12	D	M	,N000
1. Basic Series: ORWH = Miniature Power PC board relay.							
2. Enclosure: SS = Vented (flux-tight)* plastic case. SH = Sealed plastic case							
3. Number of Poles: 1 = 1 pole							
4. Coil Voltage: 03 = 3VDC 06 = 6VDC 12 = 12VDC 48 = 48VDC 05 = 5VDC 09 = 9VDC 24 = 24VDC							
5. Coil Input: D = Standard							
6. Contact Arrangement: Blank = 1 Form C, SPDT M = 1 Form A, SPST-NO							
7. Option: ,N000= Standard model. Other Suffix = Custom model.							

* Not suitable for immersion cleaning

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

ORWH-SH-112DM,N000	ORWH-SH-109D,N000	ORWH-SS-112DM,N000	ORWH-SS-106D,N000	ORWH-SS-148D,N000
ORWH-SH-124DM,N000	ORWH-SH-112D,N000	ORWH-SS-124DM,N000	ORWH-SS-109D,N000	
ORWH-SH-105D,N000	ORWH-SH-124D,N000	ORWH-SS-148DM,N000	ORWH-SS-112D,N000	
ORWH-SH-106D,N000	ORWH-SH-148D,N000	ORWH-SS-105D,N000	ORWH-SS-124D,N000	

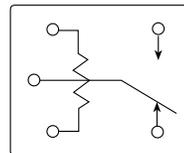
Outline Dimensions



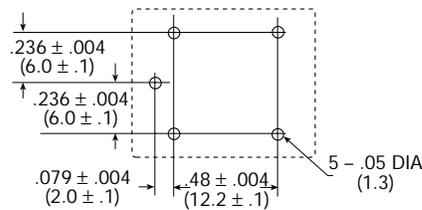
TERMINAL DIMENSIONS:
COIL: 0.024 (0.6) DIA.
LOAD: 0.12 x 0.35 (0.3 x 0.9)

Note: Only necessary terminals are present on 1 Form A models.

Wiring Diagram (Bottom View)



PC Board Layout (Bottom View)



Socket

27E1064 socket is rated 10A @ 300VAC. UL Recognized for US and Canada. Designed to fit same suggested board layout as relay.

