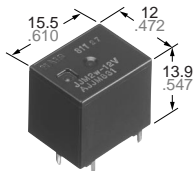


NAIS

DOUBLE MAKE CONTACT AUTOMOTIVE RELAY

JJM-RELAYS

(Double make type)



mm inch

FEATURES

• **Small size**

The smallest double make type relay
12.0(W)×15.5(L)×13.9(H) mm
.472(W)×.610(L)×.547(H) inch

• **Standard terminal pitch employed**

The terminal array used is identical to that used in JJM relays(1c type).

• **Plastic sealed type**

Plastically sealed for automotive cleaning.

SPECIFICATIONS

Contact

| | | |
|--|--|-----------------------|
| Arrangement | Double make contact | |
| Contact material | Silver alloy | |
| Initial contact resistance, max. (By voltage drop 6V DC 1A) | 100 mΩ | |
| Contact voltage drop, max. | 0.25V (at 2 × 6A) | |
| Rating | Nominal switching capacity 12A 14V DC (at 2 × 6A, lamp load) | |
| | Max. switching current 2 × 6A (12V, at 20°C 68°F), 2 × 4A (12V, at 85°C 185°F) | |
| Expected life (min. operations) | Mechanical (at 120cpm) | Min. 10 ⁷ |
| | Electrical (lamp load) | Min. 10 ^{5*} |

Coil

| | |
|-------------------------|----------|
| Nominal operating power | 1,000 mW |
|-------------------------|----------|

Remarks

- * Specifications will vary with foreign standards certification ratings.
- *1 At 12A 14V DC (lamp), operating frequency: 1s ON, 14s OFF
- *2 Measurement at same location as "initial breakdown voltage" section.
- *3 Detection current: 10mA
- *4 Excluding contact bounce time.
- *5 Half-wave pulse of sine wave: 11 ms; detection time: 10 μs
- *6 Half-wave pulse of sine wave: 6 ms
- *7 Detection time: 10 μs
- *8 Time of vibration for each direction; X, Y direction: 2 hours Z direction: 4 hours



*9 Refer to 5. Conditions for operation, transport and storage mentioned in AMBIENT ENVIRONMENT (Page 61)

Characteristics

| | | |
|--|------------------------------|---|
| Max. operating speed (at nominal switching capacity) | 4 cpm | |
| Initial insulation resistance*2 | Min. 100 MΩ (at 500 V DC) | |
| Initial breakdown voltage*3 | Between open contacts | 500 Vrms for 1min. |
| | Between contact and coil | 500 Vrms for 1min. |
| Operate time*4 (at nominal voltage)(at 20°C 68°F) | Max. 10 ms (Initial) | |
| Release time (without diode)*4 (at nominal voltage)(at 20°C 68°F) | Max. 10 ms (Initial) | |
| Shock resistance | Functional*5 | Min. 100 m/s ² {10 G} |
| | Destructive*6 | Min. 1,000 m/s ² {100 G} |
| Vibration resistance | Functional*7 | 10 to 100 Hz, Min. 44.1 m/s ² {4.5 G} |
| | Destructive*8 | 10 to 500 Hz, Min. 44.1 m/s ² {4.5 G} |
| Conditions in case of operation, transport and storage*9 (Not freezing and condensing at low temperature) | Ambient temp. | -40 to +85°C -40 to +185°F |
| | Humidity | 5 to 85% R.H. |
| Unit weight | Approx. 5 g .176 oz | |

TYPICAL APPLICATIONS

Car alarm system flashing lamp etc.

ORDERING INFORMATION

| | | |
|---------------------|----|-------------------|
| Ex. JJM | 2w | 12V |
| Contact arrangement | | Coil voltage (DC) |
| Double make contact | | 12V |

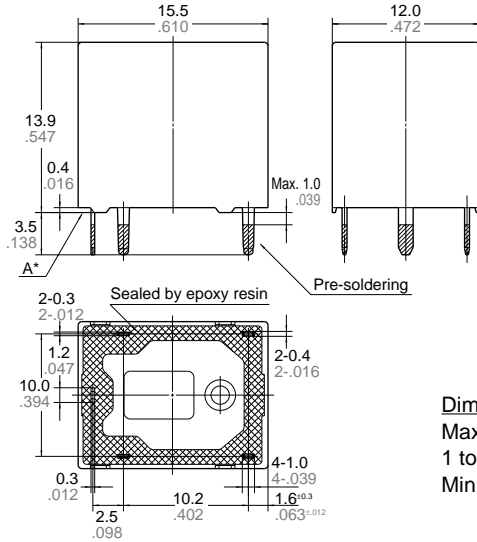
Standard packing: Carton(tube package) 50pcs. Case: 1,000pcs.

TYPES AND COIL DATA (at 20°C 68°F)

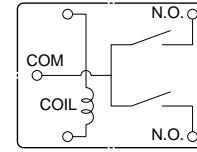
• **Single side stable type**

| Part No. | Nominal voltage, V DC | Pick-up voltage, V DC (max.) | Drop-out voltage, V DC (min.) | Coil resistance Ω (±10%) | Nominal operating current, mA (±10%) | Nominal operating power, mW | Usable voltage range, V DC |
|-----------|-----------------------|------------------------------|-------------------------------|--------------------------|--------------------------------------|-----------------------------|----------------------------|
| JJM2w-12V | 12 | (initial) 6.9 | (initial) 1.0 | 144 | 83.3 | 1,000 | 10 to 16 |

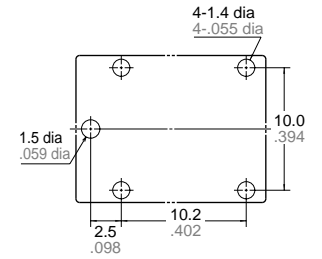
DIMENSIONS



Schematic (Bottom view)



PC board pattern (Bottom view)

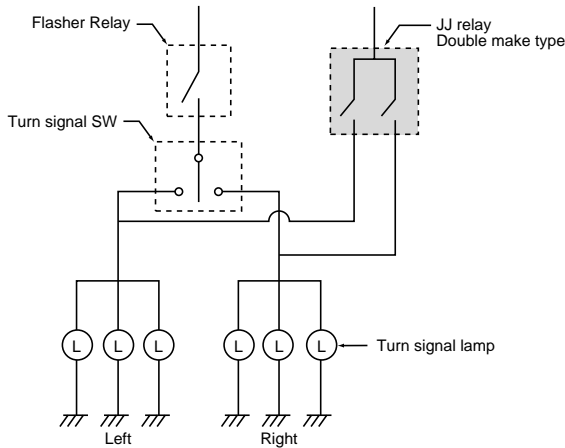


Tolerance: $\pm 0.1 \pm 0.004$

| Dimension: | General tolerance |
|-----------------------------|---------------------|
| Max. 1mm .039 inch: | $\pm 0.1 \pm 0.004$ |
| 1 to 3mm .039 to .118 inch: | $\pm 0.2 \pm 0.008$ |
| Min. 3mm .118 inch: | $\pm 0.3 \pm 0.012$ |

* Dimensions (thickness and width) of terminal in this catalog is measured before pre-soldering. Intervals between terminals is measured at A surface level.

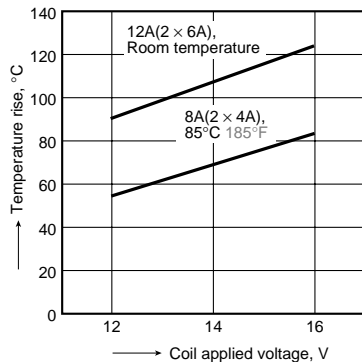
EXAMPLE OF CIRCUIT



REFERENCE DATA

1. Coil temperature rise

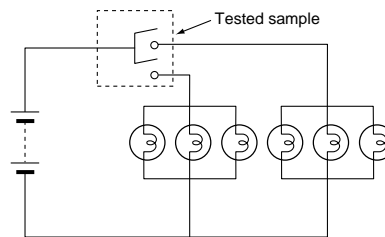
Tested samples: JJM2w-12V, 6pcs
 Point measured: Inside the coil
 Contact carrying current: 2 × 6A, 2 × 4A
 Ambient temperature: Room temperature, 85°C
 185°F



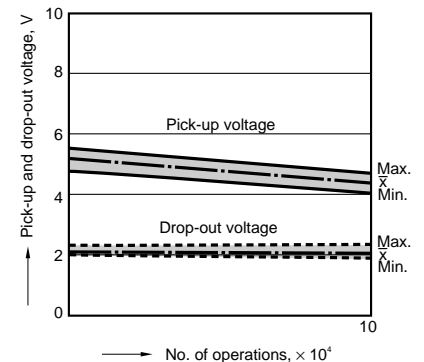
2. Electrical life test (Lamp load)

Tested samples: JJM2w-12V, 6pcs
 Load: 5.5A, inrush 48A, 6 × 21W
 Operating frequency: ON 1s, OFF 14s

Circuit:



Contact welding: 0 time
 Miscontact: 0 time



For Cautions for use, see Relay Technical Information (Page 48 to 76).