

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

- **Pattern design simplification**

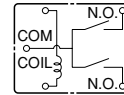
Simplified pattern design is possible because, while double make construction is employed, the external COM terminal is single.

- **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.



<Schematic>

RoHS Directive compatibility information
<http://www.nais-e.com/>

SPECIFICATIONS

Contact		Characteristics			
Arrangement	Double make contact	Max. operating speed (at nominal switching capacity)	4 cpm		
Contact material	Ag alloy (Cadmium free)	Initial insulation resistance*2	Min. 100 MΩ (at 500 V DC)		
Initial contact resistance (Initial) (By voltage drop 6V DC 1A)	Typ. 10 mΩ	Initial breakdown voltage*3	Between open contacts	500 Vrms for 1min.	
Contact voltage drop	Max. 0.25V (at 2 × 6A)		Between contact and coil	500 Vrms for 1min.	
Rating	Nominal switching capacity	Operate time*4 (at nominal voltage)(at 20°C 68°F)		Max. 10 ms (Initial)	
	Max. carrying current	Release time (without diode)*4 (at nominal voltage)(at 20°C 68°F)		Max. 10 ms (Initial)	
	Min. switching capacity#1	Shock resistance		Functional*5	Min. 100 m/s ² {10 G}
Expected life (min. operations)	Mechanical (at 120cpm)	Destructive*6		Min. 1,000 m/s ² {100 G}	
	Electrical (lamp load)	Vibration resistance		Functional*7	10 Hz to 100 Hz, Min. 44.1 m/s ² {4.5 G}
Coil		Destructive*8		10 Hz to 500 Hz, Min. 44.1 m/s ² {4.5 G}	
Nominal operating power	1,000 mW	Conditions in case of operation, transport and storage*9 (Not freezing and condensing at low temperature)		Ambient temp.	-40°C to +85°C -40°F to +185°F
		Humidity		5% R.H. to 85% R.H.	
		Mass		Approx. 5 g .176 oz	

#1 This value can change due to the switching frequency, environmental conditions, and desired reliability level, therefore it is recommended to check this with the actual load.

Remarks

- *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 Conditions for operation, transport and storage mentioned in AMBIENT ENVIRONMENT
Please inquire if you will be using the relay in a high temperature atmosphere (110°C 230°F).

TYPICAL APPLICATIONS ORDERING INFORMATION

Car alarm system flashing lamp etc.

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

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

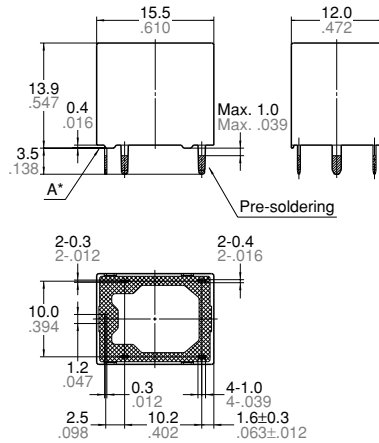
TYPES AND COIL DATA (at 20°C 68°F)

• Single side stable type

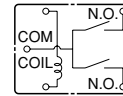
Part No.	Nominal voltage, V DC	Pick-up voltage, V DC (Initial)	Drop-out voltage, V DC (Initial)	Coil resistance Ω	Nominal operating current, mA	Nominal operating power, mW	Usable voltage range, V DC
JJM2w-12V	12	Max. 6.9	Min. 1.0	144 \pm 10%	83.3 \pm 10%	1,000	10 to 16

DIMENSIONS

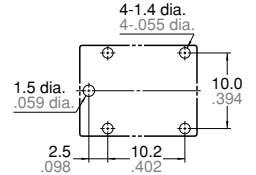
mm inch



Schematic (Bottom view)



PC board pattern (Bottom view)



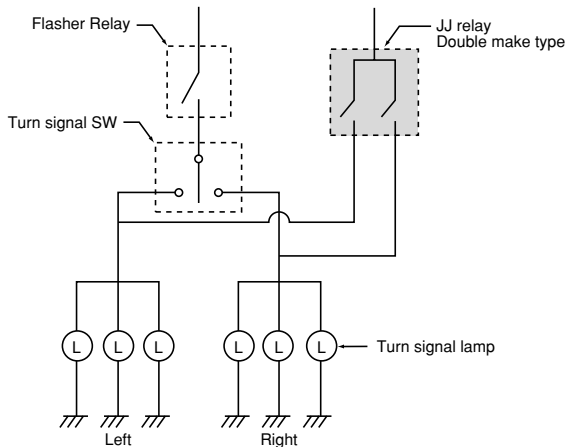
Tolerance: $\pm 0.1 \pm .004$

Dimension:	General tolerance
Max. 1mm .039 inch:	$\pm 0.1 \pm .004$
1 to 3mm .039 to .118 inch:	$\pm 0.2 \pm .008$
Min. 3mm .118 inch:	$\pm 0.3 \pm .012$

* 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

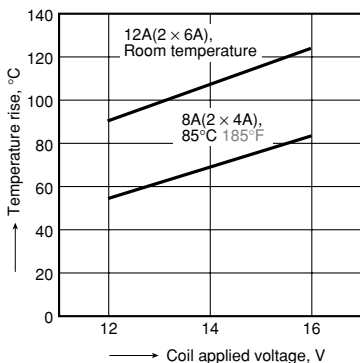
Control circuit for signal lights (security system)



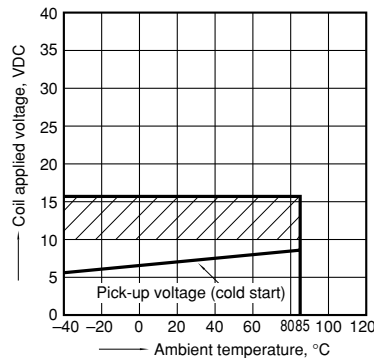
REFERENCE DATA

1. Coil temperature rise

Sample: JJM2w-12V, 6pcs.
Point measured: Inside the coil
Contact carrying current: 2 \times 6A, 2 \times 4A
Ambient temperature: Room temperature, 85°C 185°F

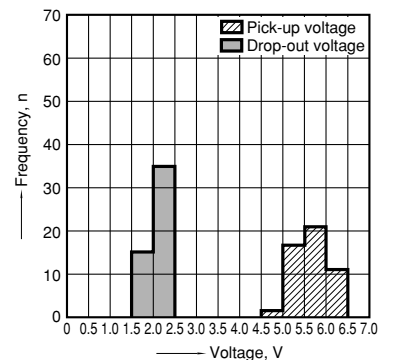


2. Ambient temperature and operating voltage range



3. Distribution of pick-up and drop-out voltage

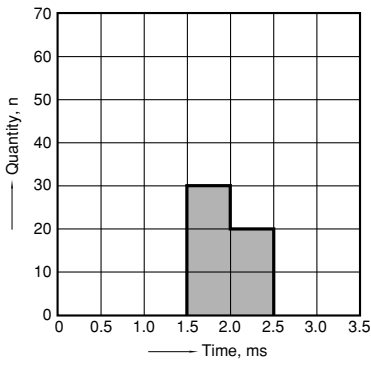
Sample: JJM2W-12V, 50pcs.



JJ-M(2w)

4. Distribution of operate time

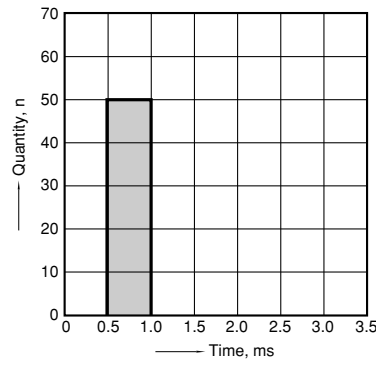
Sample: JJM2W-12V, 50pcs.



5. Distribution of release time

Sample: JJM2W-12V, 50pcs.

* Without diode



6. Electrical life test (Lamp load)

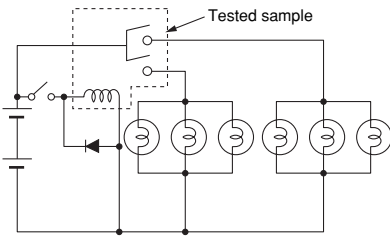
Sample: JJM2W-12V, 6pcs.

Load: 5.5A, inrush 48A, 6 × 21W

Operating frequency: (ON : OFF = 1s : 14s)

Ambient temperature: Room temperature

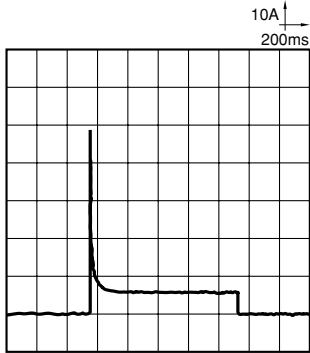
Circuit:



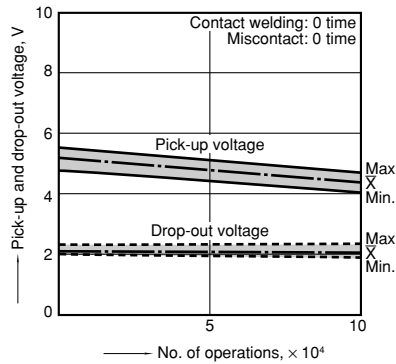
Load current waveform

Current value per contact on one side

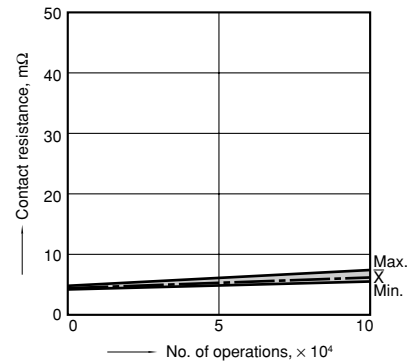
Inrush current: 48A, Steady current: 5.5A



Change of pick-up and drop-out voltage



Change of contact resistance



For Cautions for Use, see Relay Technical Information.

Mouser Electronics

Authorized Distributor

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[JJM2w-12V](#)