

! Not for new applications

**Panasonic**  
ideas for life

Global standard terminal  
pitch automotive power relay

**JS-M RELAYS**



mm inch

## FEATURES

- Low pick-up voltage for high ambient use
- Sealed construction
- Global standard terminal pitch
- Usable at high temperature:  
**85°C 185°F**

## TYPICAL APPLICATIONS

- Power-window
- Power seat
- Car antenna
- Door lock
- Intermittent wiper
- Interior lighting
- Power sunroof
- Car stereo
- Horn
- Lift gate, etc.

## SPECIFICATIONS

### Contact

		Standard type	High capacity type
Arrangement		1 Form A, 1 Form C	
Contact material		Ag alloy (Cadmium free)	
Initial contact resistance (By voltage drop 6 V DC 1 A)		*Max. 100 mΩ	*Max. 100 mΩ
Contact voltage drop		Max. 0.2 V DC (at 10 A 12 V DC)	
Rating	Nominal switching capacity	10 A 16 V DC (resistive)	15 A 16 V DC (resistive)
	Max. carrying current	25 A (at 20°C 68°F for 2 minutes) 15 A (at 20°C 68°F for 1 hour) 20 A (at 85°C 185°F for 2 minutes) 10 A (at 85°C 185°F for 1 hour)	
	Max. switching power	160 W	
	Max. switching voltage	16 V DC	
	Max. switching current	10 A	15 A (10 A max. at 85°C)
	Min. switching capacity <sup>#1</sup>	1 A 12 V DC	
Expected life (min. ope.)	Mechanical life (at 180 cpm)	10 <sup>7</sup>	
	Electrical (at 15 cpm)	10 <sup>5</sup>	N.O.: 10 <sup>5</sup> N.C.: 5×10 <sup>4</sup>

\* Measured after operating 5 times at the rated load

### Coil

Nominal operating power	640 mW
-------------------------	--------

### Contact rating

Load	Standard type		High capacity type	
	Form A	Form C		Form C
		N.O.	N.C.	
Max. carry current	15 A	15 A	15 A	15 A
Max. make current	25 A	25 A	10 A	50 A
Max. break current	10 A	10 A	10 A	15 A

## ORDERING INFORMATION

Ex. JSM   —  12V

Contact arrangement	Protective construction	Coil voltage (DC)	Contact material
1a: 1 Form A 1: 1 Form C	Nil: Sealed construction F: Flux-resistant type	12 V	4: Standard type (10 A) 5: High capacity type (15 A)

Note: Standard packing: Carton: 100 pcs. Case: 500 pcs.

## TYPES AND COIL DATA (at 20°C 68°F)

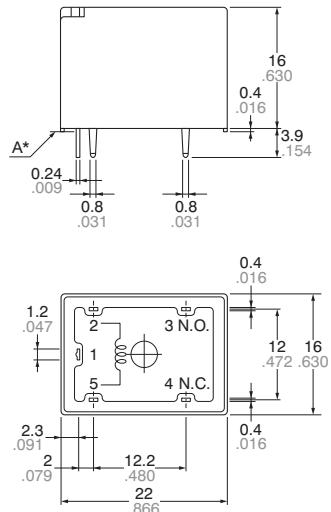
Contact arrangement	Coil voltage, V DC	Standard type (10 A)		High capacity type (15 A)		Nominal voltage, V DC	Pick-up voltage, V DC	Drop-out voltage, V DC	Coil resistance Ω	Nominal operating current, mA	Nominal operating power, mW	Max. allowable voltage, V DC (at 80°C 176°F)
		Sealed type	Flux-resistant type	Sealed type	Flux-resistant type							
1 Form A	12	JSM1a-12V-4	JSM1aF-12V-4	JSM1a-12V-5	JSM1aF-12V-5	12	Max. 6.3	Min. 0.9	225±10%	53.3±10%	640	10 to 16
1 Form C	12	JSM1-12V-4	JSM1F-12V-4	JSM1-12V-5	JSM1F-12V-5	12	Max. 6.3	Min. 0.9	225±10%	53.3±10%	640	10 to 16

\* Other pick-up voltage types are also available. Please contact us for details.

## DIMENSIONS (mm inch)

Download [CAD Data](#) from our Web site.

## CAD Data

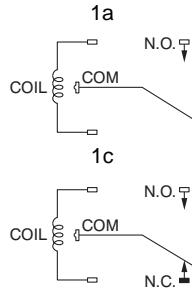


## Dimension:

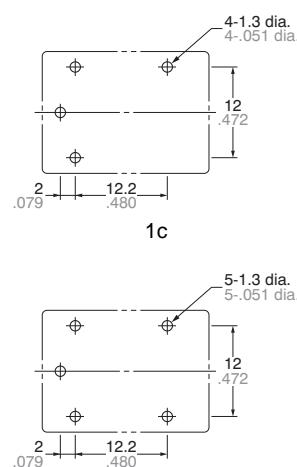
Max. 1mm .039 inch:  $\pm 0.1 \pm 0.004$   
 1 to 3mm .039 to .118 inch:  $\pm 0.2 \pm 0.008$   
 Min. 3mm .118 inch:  $\pm 0.3 \pm 0.012$

## General tolerance

## Schematic (Bottom view)



## PC board pattern (Bottom view)



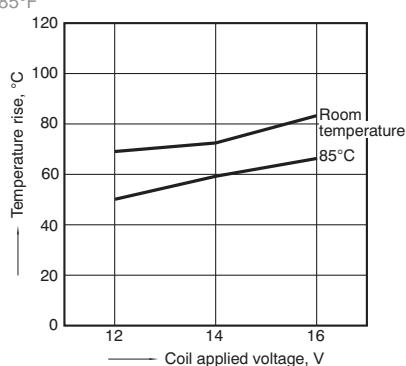
Tolerance:  $\pm 0.1 \pm 0.004$

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

## REFERENCE DATA

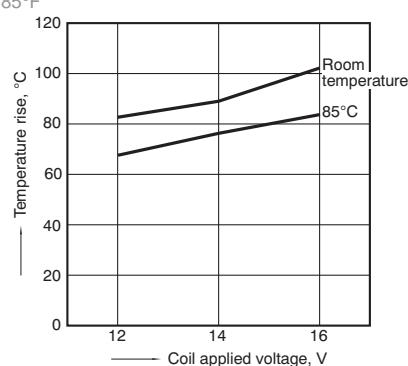
## 1-(1). Coil temperature rise (10A)

Measured portion: Inside the coil  
 Contact carrying current, 10A  
 Ambient temperature: Room temperature, 85°C  
 185°F

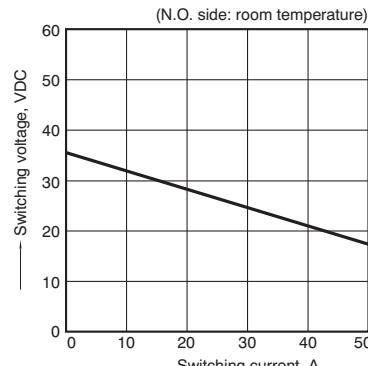


## 1-(2). Coil temperature rise (15A)

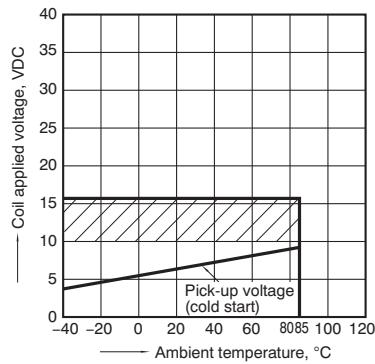
Measured portion: Inside the coil  
 Contact carrying current, 15A  
 Ambient temperature: Room temperature, 85°C  
 185°F



## 2. Max. switching capability (Resistive load, initial)



3. Ambient temperature and operating voltage range



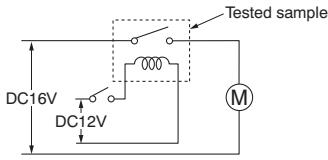
6-(1). Electrical life test (Motor load)

Sample: JSM1-12V-5, 3pcs.

Load: 50A (Inrush), 10A 16V DC (Steady)

Switching frequency: (ON : OFF = 1s : 9s)

Circuit :



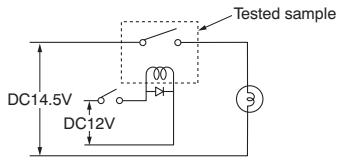
6-(2). Electrical life test (Lamp load)

Sample: JSM1-12V-5, 4pcs.

Load: 55.2A (Inrush), 9.6A 14.5V DC (Steady)

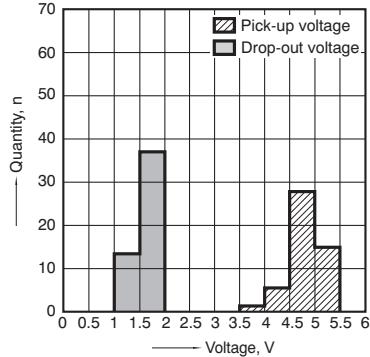
Switching frequency: (ON : OFF = 1s : 3s)

Circuit :



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

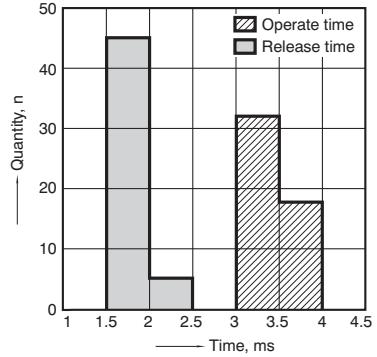
Sample: JSM1-12V-5, 50pcs.



5. Distribution of operate and release time

Sample: JSM1-12V-5, 50pcs.

Coil both side without diode



For Cautions for Use, see [Relay Technical Information](#).

# Mouser Electronics

Authorized Distributor

Click to View Pricing, Inventory, Delivery & Lifecycle Information:

[Panasonic](#):

[JSM1aF-12V-4](#) [JSM1F-12V-5](#) [JSM1F-12V-4](#)