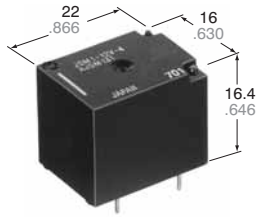


⚠ Not for new applications

**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
- Car antenna
- Door lock
- Intermittent wiper
- Interior lighting
- Power seat
- 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#1	1 A 12 V DC	
Expected life (min. ope.)	Mechanical life (at 180 cpm)	10 <sup>7</sup>	
	Electrical (at 15 cpm)	Resistive 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	N.O.	N.C.	Form A	N.O.	N.C.
Max. carry current	15 A	15 A	15 A	15 A	15 A	15 A
Max. make current	25 A	25 A	10 A	50 A	50 A	15 A
Max. break current	10 A	10 A	10 A	15 A	15 A	15 A

### Characteristics

Max. operating speed (at rated load)		15 cps.
Initial insulation resistance*1		Min. 100 MΩ (at 500 V DC)
Initial breakdown voltage*2	Between open contacts	750 Vrms for 1 min.
	Between contacts and coil	1,500 Vrms for 1 min.
Operate time*3 (at nominal voltage)		Max. 10 ms
Release time (without diode)*3 (at nominal voltage)		Max. 10 ms
Shock resistance	Functional*4	Min. 98 m/s <sup>2</sup> {10 G}
	Destructive*5	Min. 980 m/s <sup>2</sup> {100 G}
Vibration resistance	Functional*6	10 Hz to 55 Hz at double amplitude of 1.6 mm
	Destructive	10 Hz to 55 Hz at double amplitude of 2 mm
Conditions for operation, transport and storage*7 (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. 12 g .423 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 Measurement at same location as "Initial breakdown voltage" section

\*2 Detection current: 10mA

\*3 Excluding contact bounce time

\*4 Half-wave pulse of sine wave: 11ms; detection time: 10μs

\*5 Half-wave pulse of sine wave: 6ms

\*6 Detection time: 10μs

\*7 Refer to "6. Usage, Storage and Transport Conditions" in [AMBIENT ENVIRONMENT](#) section in [Relay Technical Information](#).

## 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)**

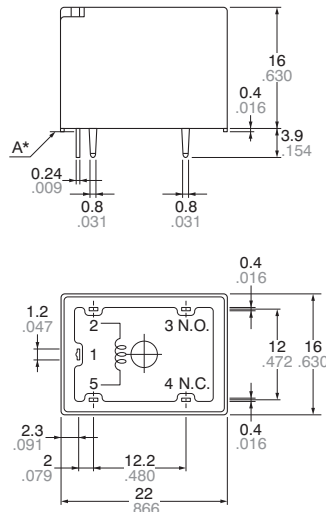
Contact arrangement	Coil voltage, V DC	Standard type (10 A)		High capacity type (15 A)		Nominal voltage, V DC	Pick-up voltage, V DC	Drop-out voltage, V DC	Coil resistance Ω	Nominal operating current, mA	Nominal operating power, mW	Max. allowable voltage, V DC (at 80°C 176°F)
		Sealed type	Flux-resistant 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)**

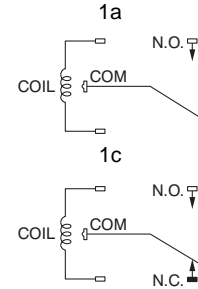
Download [CAD Data](#) from our Web site.

[CAD Data](#)

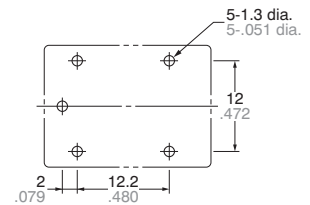
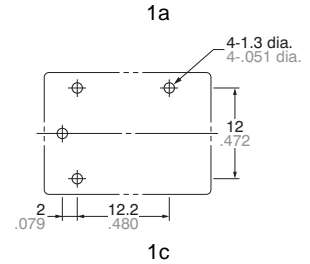


Dimension:	General tolerance
Max. 1mm .039 inch:	±0.1 ±.004
1 to 3mm .039 to .118 inch:	±0.2 ±.008
Min. 3mm .118 inch:	±0.3 ±.012

Schematic (Bottom view)



PC board pattern (Bottom view)

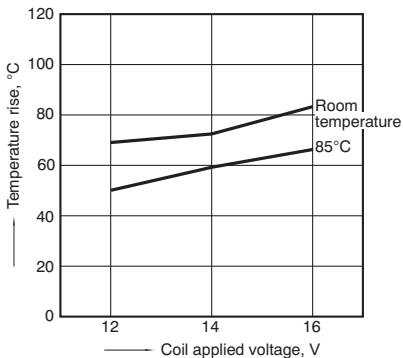


Tolerance: ±0.1 ±.004

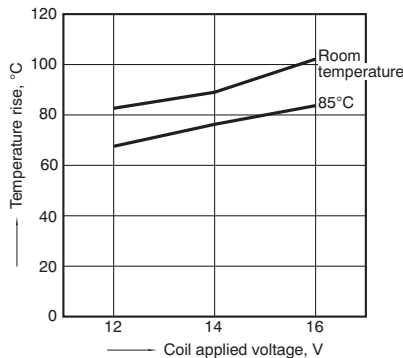
\* Dimensions (thickness and width) of terminal specified in this catalog is measured before pre-soldering. Intervals between terminals is measured at A surface level.

**REFERENCE DATA**

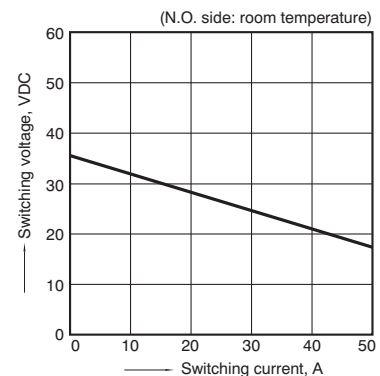
1-(1). Coil temperature rise (10A)  
 Measured portion: Inside the coil  
 Contact carrying current, 10A  
 Ambient temperature: Room temperature, 85°C  
 185°F



1-(2). Coil temperature rise (15A)  
 Measured portion: Inside the coil  
 Contact carrying current, 15A  
 Ambient temperature: Room temperature, 85°C  
 185°F

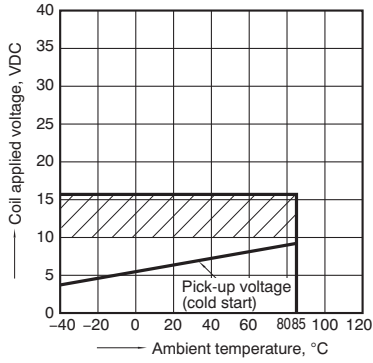


2. Max. switching capability (Resistive load, initial)

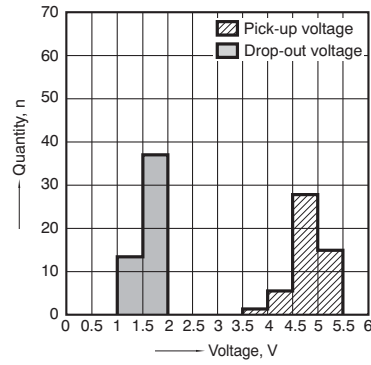


⚠ Not for new applications

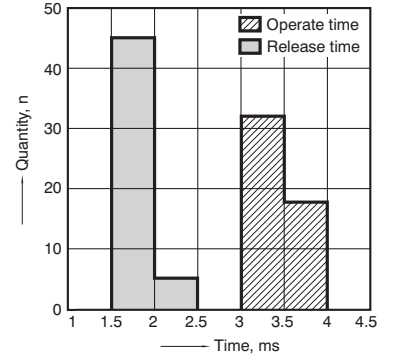
3. Ambient temperature and operating voltage range



4. Distribution of pick-up and drop-out voltage  
Sample: JSM1-12V-5, 50pcs.



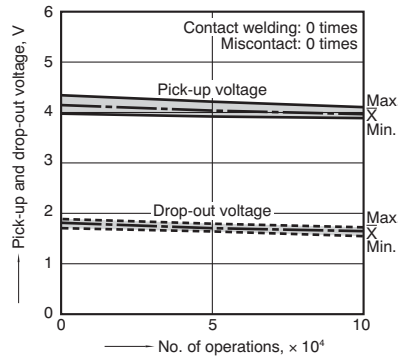
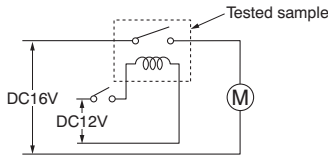
5. Distribution of operate and release time  
Sample: JSM1-12V-5, 50pcs.  
Coil both side without diode



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)

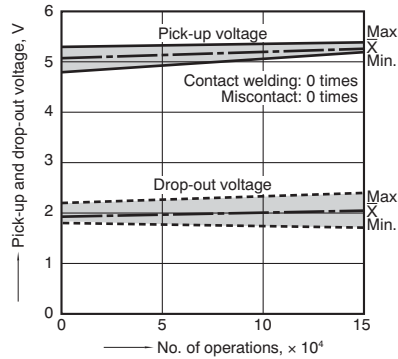
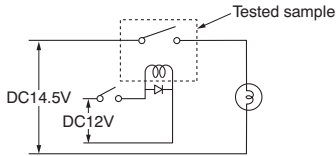
Circuit :



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 :



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

## X-ON Electronics

Largest Supplier of Electrical and Electronic Components

*Click to view similar products for [Automotive Relays](#) category:*

*Click to view products by [Panasonic](#) manufacturer:*

Other Similar products are found below :

[896H-1AH-D1SW-001-24VDC](#) [896H-1AH-D1SW-R1-12VDC](#) [896H-1CH-C1-001-12VDC](#) [896H-1CH-S-24VDC](#) [896HP-1AH-C-12VDC](#)  
[G5CE1ASIDC12](#) [AEV31024](#) [1393204-2](#) [1393302-3](#) [13Z99A115-0074](#) [1432872-1](#) [1617057-2](#) [2-1617057-2](#) [CB1F-M-12V-H15](#) [CB1-T-R-M-](#)  
[12V](#) [896H-1CH-D1SF-R1-12VDC](#) [896H-1CH-D1SF-R1-T-12VDC](#) [898H-1AH-D-001-12VDC](#) [24198-1](#) [5-1616920-2](#) [5-1617052-9](#) [5407-](#)  
[0011-HS](#) [CB1AF-M-12V-H59](#) [5-1617346-8](#) [103-1AH-C-12VDC](#) [CF2Q-12V](#) [V23134A1052X299](#) [CP112J](#) [896H-1AH-S1-001-12VDC](#)  
[897H-1AH-D-R1-U01-12VDC](#) [896H-1CH-D-U39-24VDC](#) [896HP-1AH-C-U2120VDC](#) [896E-1CH-D1SW-U57-12VDC](#) [896H-1CH-D1SW-](#)  
[R1-U30-12VDC](#) [896H-1AH-C1S-R1-24VDC](#) [102-1CH-C-12VDC](#) [V23076A3001D142T](#) [1-19042-6](#) [3-1393305-1](#) [J7TKNA9](#)  
[V23234A1001X043-EV-144](#) [V23086-R1851-A502](#) [898H-1AH-D1SW-R1-12VDC](#) [RH4C1P2607](#) [RE031005](#) [V23134M0052G242](#) [1393204-1](#)  
[G8N-1L-AS DC12](#) [V23076A3022D142](#) [V23074A2001A402](#)