



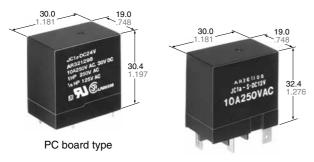




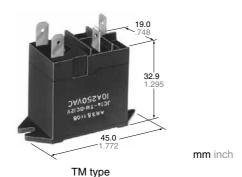
Panasonic ideas for life

COMPACT POWER RELAYS

JC RELAYS



Plug-in type



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

FEATURES

- · High inrush current capability
- 1 Form A: 163 A inrush (TV-8)
- 2 Form A: 111 A inrush (TV-5)
- High dielectric withstanding for transient protection: JC can withstand 10,000 V surge in µs between coil and contact.
- Electrical life:
 - 1 Form A: 105 ope. at 15 A 250 V AC resistive load 2 Form A: 105 ope.
 - at 10 A 250 V AC resistive load
- UL/CSA, VDE, TÜV, SEMKO also approved.

COMMENTS ABOUT Cd FREE

We have introduced Cadmium free type products to reduce the material which is not good for our environment. (The suffix "F" should be added to the part number.) If you are still using Cadmium containing parts, which don't have "F" on the suffix of the part number, please use Cadmium free parts from now on. The life of the Cadmium free parts may be shorter than the Cadmium containing parts based on the load condition, so please evaluate the Cadmium free parts with your actual application before use.

SPECIFICATIONS

Contact

Arrangement			1 Form A	2 Form A	
Initial contact resistance, max. (By voltage drop 6 V DC 1 A)			30 mΩ		
Contact material			AgSnO ₂ type		
Contact force, min.			30 g		
Rating (resistive load)	Maximum switching power		3,750 VA	2,500 VA	
	Maximum switching voltage		250 V AC	250 V AC	
	Max. switching current		15 A	10 A	
	Min. switching capacity#1		100 mA, 5 V DC		
Expected life (min. operation)	Mechanical		5×10 ⁶		
	Electrical (resistive)	10 A 250 V AC	105	_	
		5A 250 V AC	_	10⁵	
Coil					
Nominal operating power		900 mW	1,000 mW		

^{#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

- Specifications will vary with foreign standards certification ratings.
- *1 Measurement of 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. Conditions for operation, transport and storage mentioned in AMBIENT ENVIRONMENT

Characteristics

Maximum operating speed			20 cpm.		
Initial insulation resistance*1			Min. 100 MΩ at 500 V DC		
Initial breakdown voltage*2	Between oper	n contacts	2,000 V rms for 1 min.		
	Between cont	acts sets	2,000 Vrms for 1 min.		
	Between cont	acts and	4,000 Vrms for 1 min.		
Operate time*3 (at nominal voltage)		Max. 30 ms			
Release time(without diode)*3 (at nominal voltage)		*3	Max. 10 ms		
Temperature rise (at nominal voltage)			Max. 55°C		
Shock resistance	Functional*4		196 m/s² {20 G}		
	Destructive*5		980 m/s² {100 G}		
Vibration resistance	Functional*6		98 m/s 2 {10 G}, 10 to 55 Hz at double amplitude of 1.6 mm		
	Destructive		117.6 m/s ² {12 G}, 10 to 55 Hz at double amplitude of 2 mm		
Conditions for operation, transport and storage*7 (Not freezing and condens- ing at low temperature)		Ambient temp.	–50°C to +60°C −58°F to +140°F		
		Humidity	5 to 85%R.H.		
Unit weight			Approx. 31 g 1.09 oz		

TYPICAL APPLICATIONS

Automatic garage door openers Microwave ovens Dryers Vending machines Copiers Air conditioners Stereo equipment TV sets

ORDERING INFORMATION

Ex. JC 1a F — TM — DC12V — F					
Contact arrangement	Mounting classification	Coil voltage	Contact material		
1a: 1 Form A 2a: 2 Form A	Nil: PC board terminal S: Plug-in terminal TM: Top mounting	DC 5, 6, 12, 24, 48 V	F: AgSnO ₂ type		

(Notes) 1. TV rated types available 1 Form A: TV-8; 2 Form A: TV-5.

- Standard packing Carton: 50 pcs.; Case: 200 pcs.
 UL/CSA, VDE, TÜV, and SEMKO certified products can also be supported. Please consult us.
- 4. Please inquire about the previous products (Cadmium containing parts).

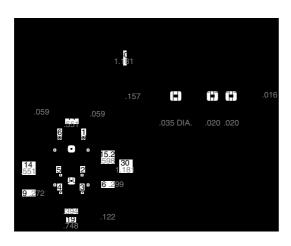
COIL DATA (at 20°C 68°F)

Contact arrangement	Nominal voltage. V DC	Pick-up voltage. V DC (max.)	Drop-out voltage. V DC (min.)	Coil resistance, Ω(±10%)	Nominal operating current, mA	Nominal operating power, W	Maximum allowable voltage, V DC (at 60°C)
1 Form A	6	4.8	0.6	40	150	0.9	6.6
	12	9.6	1.2	160	75	0.9	13.2
	24	19.2	2.4	640	37.5	0.9	26.4
	48	38.4	4.8	2,560	18.8	0.9	52.8
2 Form A	6	4.8	0.6	36	166.6	1.0	6.6
	12	9.6	1.2	144	83.3	1.0	13.2
	24	19.2	2.4	576	41.6	1.0	26.4
	48	38.4	4.8	2,304	20.8	1.0	52.8

DIMENSIONS

PC board type JC1a



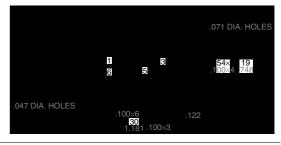


Schematic

mm inch

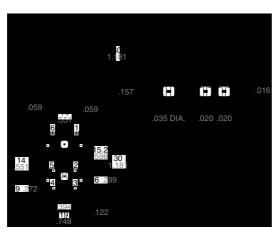


PC board pattern (Bottom view)



PC board type JC2a





General tolerance: $\pm 0.3 \pm .012$

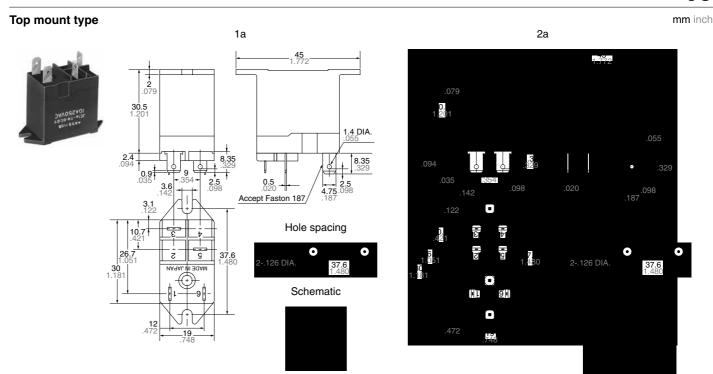
Schematic



PC board pattern (Bottom view)



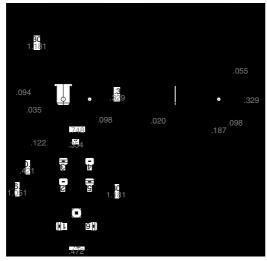
Tolerance: ±0.1 ±.004

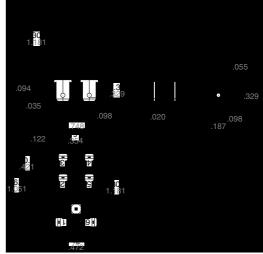


Plug-in type

1a 2a







General tolerance: ±0.3 ±.012

REFERENCE DATA

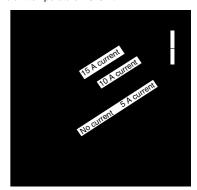
JC1a type

1. Maximum value for switching capacity

2. Life curve



3.-(1) Coil temperature rise Point measured: Inside the coil Ambient temperature: 26°C 79°F

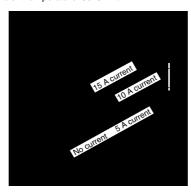




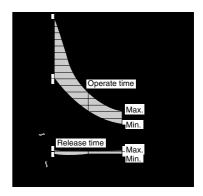
3.-(2) Coil temperature rise Point measured: Inside the coil Ambient temperature: 40°C 104°F



3.-(3) Coil temperature rise Point measured: Inside the coil Ambient temperature: 60°C 140°F



4. Operate / release time



JC2a type

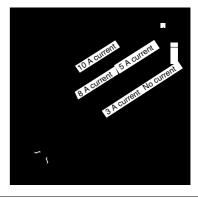
1. Maximum value for switching capacity



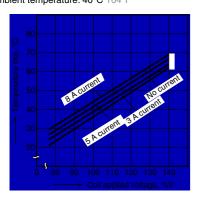
2. Life curve



3.-(1) Coil temperature rise Point measured: Inside the coil Ambient temperature: 26°C 79°F



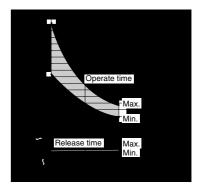
3.-(2) Coil temperature rise Point measured: Inside the coil Ambient temperature: 40°C 104°F



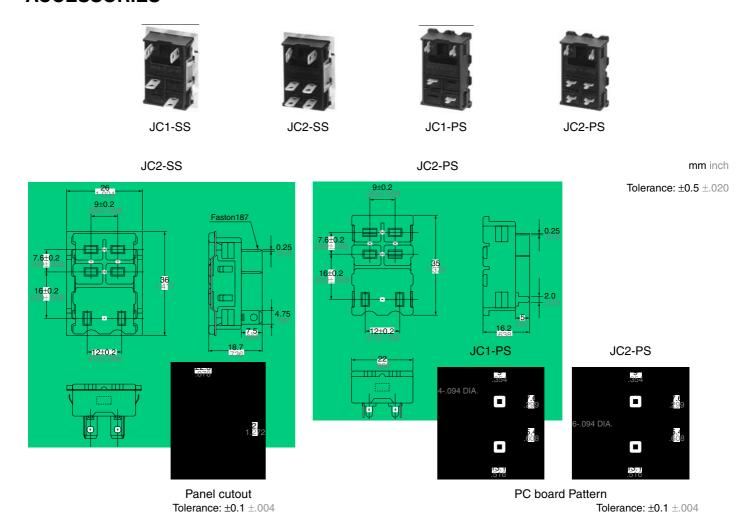
3.-(3) Coil temperature rise Point measured: Inside the coil Ambient temperature: 60°C 140°F



4. Operate / release time



ACCESSORIES



(Note)
Outward dimensions and chassis cutout dimensions for JC1-SS and JC1-PS are same as those of JC2-SS and JC2-PS respectively.
UL/CSA approved type is standard.

For Cautions for Use, see Relay Technical Information