

# POWER RELAY

## 1 POLE - 10A High Power Relay

### JV-KS Series

#### ■ FEATURES

- Low profile and space saving
    - Height: 12.5 mm
    - Mounting space: 175 mm<sup>2</sup>
  - High insulation
    - Insulation distance: 8 mm
    - Dielectric strength: 5,000 VAC
    - Surge strength: 10,000 V
  - Plastic materials
    - UL94 flame class V-0
  - Plastic sealed type
  - Cadmium free relay
  - RoHS compliant.
- Please see page 5 for more information



#### ■ PARTNUMBER INFORMATION

[Example]          JV    -     12         S    -     K         S      
                   (a)    (b) (c)   (d) (e)

(a)	Relay type	JV	: JV Series
(b)	Coil rated voltage	12	: 3.....24 VDC Coil rating table at page 3
(c)	Coil type	S	: 250mW
(d)	Enclosure	K	: Plastic sealed type
(e)	Special type	S	: High power type

Note: Actual marking omits the hyphen (-) or (\*)

# JV-KS SERIES

## ■ SPECIFICATION

Item	JV-KS		
Contact Data	Configuration	1 form A (SPST-NO)	
	Construction	Single	
	Material	AgSnO <sub>2</sub>	
	Resistance (initial)	≤ 70 mΩ at 6 VDC, 1A	
	Contact rating (resistive)	10A, 250VAC / 24VDC	
	Max. carrying current	10A	
	Max. switching voltage	250VAC / 150VDC	
	Max. switching power	2,500VA / 240W	
	Min. switching load *	100mA, 5 VDC	
Life	Mechanical	50 x 10 <sup>6</sup> operations minimum	
	Electrical	50 x 10 <sup>3</sup> operations minimum	
Coil Data	Rated power (at 20 °C)	250mW	
	Operating temperature range	-40 °C to +70 °C (no frost)	
Timing Data	Operate (at nominal voltage)	≤ 8 ms (no bounce included)	
	Release (at nominal voltage)	≤ 4 ms	
Insulation	Resistance (initial)	≥ 1,000MΩ at 500VDC	
	Dielectric strength	Open contacts	750VAC, 1 min.
		Contacts to coil	5,000VAC, 1 min.
Surge strength	Coil to contacts	10,000V / 1.2 x 50μs standard wave	
Other	Vibration resistance	Misoperation	10 to 55Hz double amplitude 1.65 mm
		Endurance	10 to 55Hz double amplitude 5 mm
	Shock	Misoperation	Min. 100m/s <sup>2</sup> (11 ± 1ms)
		Endurance	Min. 1,000m/s <sup>2</sup> (6 ± 1ms)
	Weight	Approximately 4.3 g	

\* Minimum switching loads mentioned above are reference values. Please perform the confirmation test with actual load before production since reference values may vary according to switching frequencies, environmental conditions and expected reliability levels.

# JV-KS SERIES

## ■ COIL RATING

Coil Code	Rated Coil Voltage (VDC)	Coil Resistance +/- 10% (Ohm)	Must Operate Voltage (VDC) *	Must Release-Voltage (VDC) *	Rated Power (mW)
3	3	36	2.1	0.3	250
5	5	100	3.5	0.5	
6	6	144	4.2	0.6	
9	9	324	6.3	0.9	
12	12	576	8.4	1.2	
18	18	1296	12.6	1.8	
24	24	2304	14.9	2.4	

Note: All values in the table are valid for 20°C and zero contact current.

\* Specified operate values are valid for pulse wave voltage.

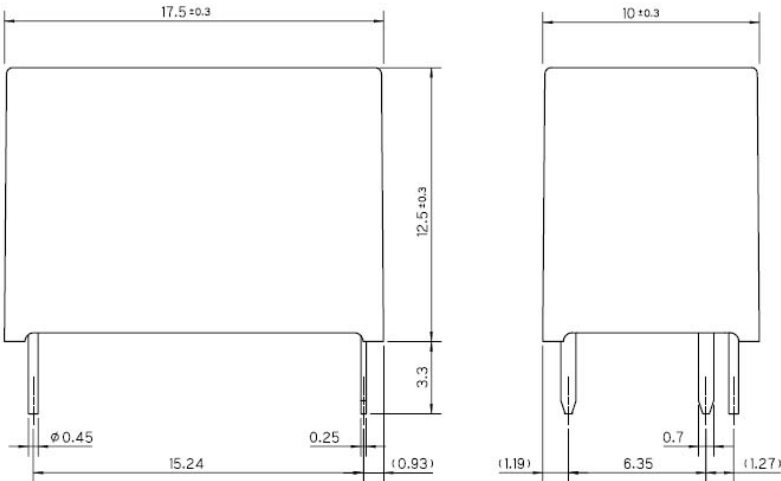
## ■ SAFETY STANDARDS

Type	Compliance	Contact rating
UL	UL 508	Flammability: UL 94-V0 (plastics)
		10A, 24VDC, resistive 50,000 operations 10A, 250VAC, resistive 50,000 operations
CSA	C22.2 No. 14	TV-4, 120VAC, 25,000 operations
VDE	0435, 0631, 0860	10A, 30VDC, 100,000 operations, - 40 / 85 °C 10A, 250VAC, 25,000 operations, - 40 / 85 °C
	40016247	

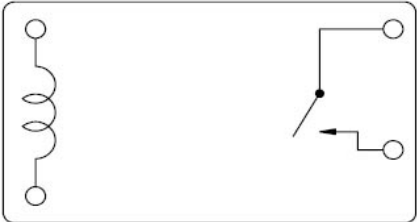
# JV-KS SERIES

## ■ DIMENSIONS

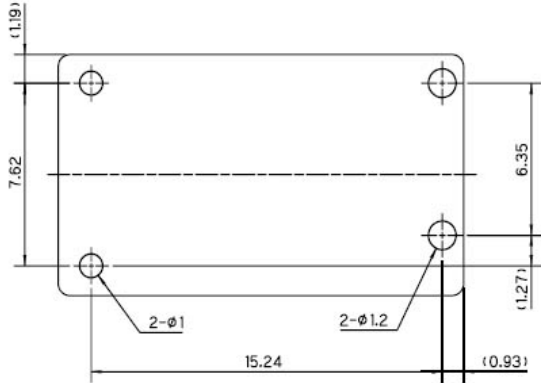
- Dimensions



- Schematics (BOTTOM VIEW)



- PC board mounting hole layout (BOTTOM VIEW)



Unit: mm

## RoHS Compliance and Lead Free Information

### 1. General Information

- All signal and power relays produced by Fujitsu Components are compliant with RoHS directive 2002/95/EC including amendments.
- Cadmium as used in electrical contacts is exempted from the RoHS directives on October 21st, 2005. (Amendment to Directive 2002/95/EC)
- All of our signal and power relays are lead-free. Please refer to Lead-Free Status Info for older date codes at: <http://www.fujitsu.com/us/downloads/MICRO/fcai/relays/lead-free-letter.pdf>
- Lead free solder plating on relay terminals is Sn-3.0Ag-0.5Cu, unless otherwise specified. This material has been verified to be compatible with PbSn assembly process.

### 2. Recommended Lead Free Solder Profile

- Recommended solder Sn-3.0Ag-0.5Cu.

**Flow Solder condition:**

Pre-heating: maximum 120°C  
Soldering: dip within 5 sec. at  
260°C solder bath

**Solder by Soldering Iron:**

Soldering Iron  
Temperature: maximum 360°C  
Duration: maximum 3 sec.

**We highly recommend that you confirm your actual solder conditions**

### 3. Moisture Sensitivity

- Moisture Sensitivity Level standard is not applicable to electromechanical relays, unless otherwise indicated.

### 4. Tin Whiskers

- Dipped SnAgCu solder is known as presenting a low risk to tin whisker development. No considerable length whisker was found by our in house test.

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