

POWER RELAY 1 POLE - 5A/10A Medium Load Control

JV Series

■ FEATURES

• UL, CSA, VDE, SEMKO, CQC recognized

• UL class B (130°C) wire class

• Low profile and space saving

- Height: 12.5 mm

- Mounting space: 175 mm²

• High sensitivity in small package

- Operating power: 0.112 to 0.13 W

- Nominal power: 0.2 to 0.3 W

High insulation with reinforced insulation system

(between coil and contacts)
- Insulation distance: 8 mm

- Dielectric strength: 5,000 VAC

- Surge strength: 10,000 V

Plastic materials

- UL94 flame class V-0 -UL CTI level class 2

• Plastic sealed type, RTIII

• RoHS compliant.

Please see page 7 for more information



PARTNUMBER INFORMATION

[Example] $\frac{JV}{(a)} - \frac{12}{(b)} \frac{S}{(c)} - \frac{K}{(d)} \frac{T}{(e)}$

(a)	Relay type	JV	: JV-Series
(b)	Coil rated voltage	12	: 348 VDC Coil rating table at page 3
(c)	Coil type	Nil S	: Standard type (300mW) (not for -KS type) : High sensitive type (200mW) (-KS type: 250mW)
(d)	Enclosure	K	: Plastic sealed type, RTIII
(f)	Construction	T S	: High density mounting type : High power type 10A

Note: Actual marking omits the hyphen (-) of (*)

1

JV SERIES

■ SPECIFICATION

Item			Standard type	High sensitive type	High power type		
			JV - ()	JV - () S	JV- () - KS		
Contact Data	Configuration		1 form A (SPST-N	1 form A (SPST-NO)			
	Construction		Single				
	Material		Silver alloy AgNi	Silver alloy AgNi + Au			
	Resistance (Initial)		Max. 70 mΩ at 6	VDC, 1 A			
	Contact rating		5A, 250VAC / 30V	5A, 250VAC / 30VDC (resistive load)			
	Max. carrying current		5A		10A		
	Max. switching voltage		250VAC / 150 VD	250VAC / 150 VDC			
	Max. switching power		1,250VA / 150W		2,500VA / 240W		
	Max. switching current		5A	5A			
	Min. switching load *		100 mA, 5 VDC				
Life	Mechanical		Min. 5 x 10 ⁶ operations				
	Electrical		Min. 100 x 10 ³ operations		Min. 50 x 10 ³ operations		
Coil Data	Rated power (at 20 °C)		300mW	200mW	250mW		
	Operate power (at 20 °C)		130mW	113mW	145mW		
	Operating temperature ra	nge	-40 °C to +70 °C (no frost)		-40 °C to +85°C (no frost)		
Timing Data	Operate (at nominal volta	ige)	Max. 8 ms (without bounce)				
	Release (at nominal volta	ge)	Max. 4 ms (no diode)				
Insulation	Resistance (initial)		Min 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				
	Vibration resistance	Endurance	10 to 55Hz double amplitude 5 mm				
	Shock	Misoperation	Min. 100m/s ² (11 ± 1ms)				
	SHUCK	Endurance	Min. 1,000m/s ² (6 ± 1ms)				
	Weight		Approximately 4.3 g				
	Sealing		Plastic sealed RTIII				

^{*} 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.

COIL RATING

Standard type (300 mW)

Coil Code	Rated Coil Voltage (VDC)	Coil Resistance +/- 10% (Ohm)	Must Operate Voltage (VDC) *	Must Release Voltage (VDC) *	Rated Power (mW)
3	3	30	1.98	0.15	
5	5	83.3	3.3	0.25	
6	6	120	3.96	0.3	
9	9	270	5.94	0.45	300 mW
12	12	480	7.9	0.6	
24	24	1,920	15.8	1.2	
48	48	7,680	31.7	2.4	

High sensitive type (200 mW)

Coil Code	Rated Coil Voltage (VDC)	Coil Resistance +/- 10% (Ohm)	Must Operate Voltage (VDC) *	Must Release Voltage (VDC) *	Rated Power (mW)
3	3	45	2.25	0.15	
5	5	125	3.75	0.25	
6	6	180	4.5	0.3	
9	9	405	6.75	0.45	200 mW
12	12	720	9	0.6	
18	18	1,620	13.5	0.9	
24	24	2,880	18	1.2	

10A High power type (250 mW)

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	
5	5	100	3.5	0.5	
6	6	144	4.2	0.6	
9	9	324	6.3	0.9	250 mW
12	12	576	8.4	1.2	
18	18	1,296	12.6	1.8	
24	24	2,304	14.9	2.4	

Note: All values in the tables are valid for 20°C and zero contact current. $\mbox{\tt *}$ Specified operate values are valid for pulse wave voltage.

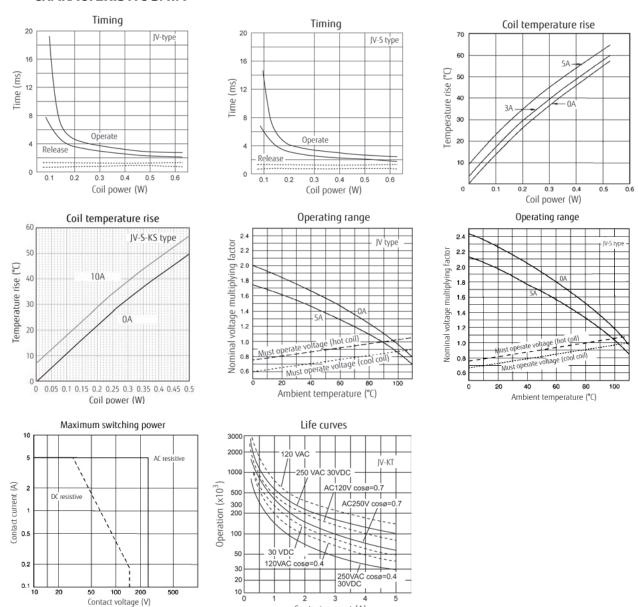
SAFETY STANDARDS

Туре	Compliance	Contact rating
UL	UL 508, UL 873	Flammability: UL 94-V0 (plastics)
	E56140	5A, 250 VAC / 30 VDC (resistive) 1/8 HP, 125VAC/250VAC
CSA	C22.2 No. 14 LR 35579	Pilot duty: C300
VDE	0435, 0631, 0700	5A, 250VAC (cosφ1), 100K 2A, 250VAC (cos φ0.4), 100K 5A, 30VDC (omsec), 100K 10A, 250VAC (cosφ1), JV-KS, 25K
	40016247	10A, 30VDC (0msec), JV-KS, 100K

Also complies with SEMKO, CQC.

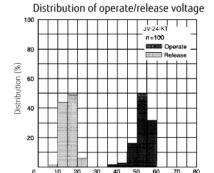
Please contact sales office when SEMKO, CQC logo marking is neccessary on the cover.

■ CHARACTERISTIC DATA

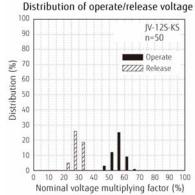


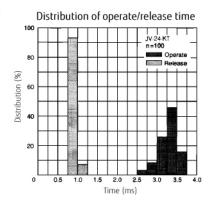
Contact current (A)

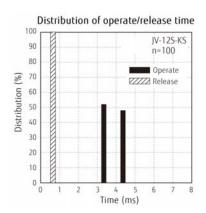
JV SERIES

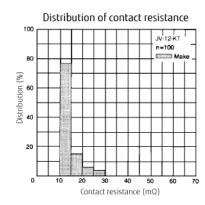


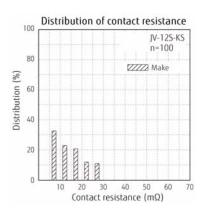
Nominal voltage multiplying factor (%)

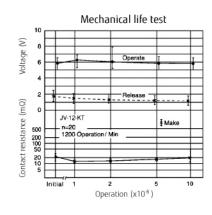


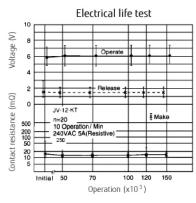


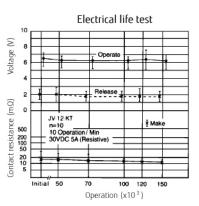








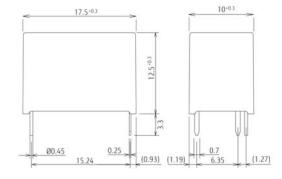




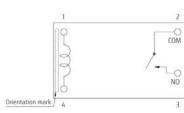
DIMENSIONS

JV-KT type + JV-()S-KS

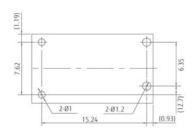
Dimensions



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 2002/95EC 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.

7

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