FUJITSU

POWER RELAY
1 POLE - 8A Medium Load Control
JS Series

■ FEATURES

- UL, CSA, VDE, SEV, SEMKO, FIMKO, NEMKO, DEMKO, ÖVE, CQC, BSI compliance
- UL class B (130°C) coil wire insulation
- 1 form A (SPST-NO) or 1 form C (SPDT) contact
- Low profile and space saving
  - Height: 12.5 mm - Mounting space: 290 mm2
- High sensitivity in small package
  - Operating power 110 to 140 mW
  - Nominal power 220 to 290 mW
- High insulation in small package
  - Insulation distance : 8 mm (between coil and contacts)
  - Dielectric strength : 5,000 VAC - Surge strength : 10,000 V
- Plastic materials
  - UL 94 flame class V-0 - UL CTI level class 2
- Plastic sealed type
- Various contact material options
- RoHS compliant. Please see page 7 for more information

■ PARTNUMBER INFORMATION

[Example] JS (a) - 12 (b) M (c) E (d) - K (e) T (f) - V3 * (g)

(a)	Relay type	JS: JS Series
(b)	Coil rated voltage	12 : 5.....60 VDC Coil rating table at page 3
(c)	Contact configuration	Nil : 1 form C (SPDT) M : 1 form A (SPST-NO)
(d)	Contact material	Nil : Gold plate silver cadmium oxide D : Silver nickel E : Silver cadmium oxide F : Gold plate silver nickel N : Gold plate silver tin oxide
(e)	Enclosure	K : Plastic sealed type
(f)	Construction	Nil : 3.2 mm T : 5.0 mm (only JS-MN, MD, MF)
(g)	Gold plating	Nil : 0.3μ gold overlay (available with Nil, N and F contact) V3 : 3μ gold overlay for lower current applications (available with Nil, N) and not available for T (5.0mm type)

Note: Actual marking omits the hyphen (-) or (*)
*: V3 is marked at different position on the relay

■ SPECIFICATION

Item			Non V3 type	V3 type
			JS - ( ) - K JS - ( ) D/E/F/N - K	JS - ( ) - K JS - ( ) N - K
Contact Data	Configuration		1 form A (SPST-NO), 1 form C (SPDT)	
	Construction		Single	
	Material (see part number information)		0.3μ Ag plated	3μ Ag plated
	Resistance (initial)		≤ 100 mΩ at 6 VDC, 1 A	≤ 30 mΩ at 6 VDC, 1 A
	Contact rating		8A, 250VAC / 24VDC	
	Max. carrying current		10A	
	Max. switching voltage		400VAC / 150 VDC	
	Max. switching power		2,000VA / 192W	
	Min. switching load *		100 mA, 5 VDC	10 mA, 5 VDC
Life	Mechanical		20 x 10^6 operations minimum	
	Electrical	AC contact rating	100 x 10^3 operations minimum (JS-( ) N-K 50 x 10^3 operations minimum)	
		DC contact rating	100 x 10^3 operations minimum (JS-( ) N-K 50 x 10^3 operations minimum)	
Coil Data	Rated power (at 20 °C)		220 - 290 mW	
	Operate power (at 20 °C)		110 - 140 mW	
	Operating temperature range		-40 °C to +85 °C (no frost)	
Timing Data	Operate (at nominal voltage)		≤ 10ms (no bounce)	
	Release (at nominal voltage)		≤ 5ms (no diode, no bounce)	
Insulation	Resistance (initial)		≥ 1,000MOhm at 500VDC	
	Dielectric strength	Open contacts	1,000VAC (50/60Hz) 1min	
		Contacts to coil	5,000VAC (50/60Hz) 1min	
	Surge strength	Coil to contacts	10,000V / 1.2 x 50μs standard wave	
	Clearance		6 mm	
	Creepage		8 mm	
	EN61810-1, VDE0435	Voltage	250V	
		Pollution degree	3	
		Material group	III a	
		Category	C / 250V (reference voltage) (VDE 01106)	
Other	Vibration resistance	Misoperation>1us	10 to 55Hz double amplitude 1.65mm	
		Endurance	10 to 55Hz double amplitude 3.3mm	
	Shock	Misoperation>1us	Min. 100m/s² (11 ± 1ms)	
		Endurance	Min. 1,000m/s² (6 ± 1ms)	
	Weight		Approximately 8 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 contions and expected reliability levels.

■ COIL RATING

Coil Code	Rated Coil Voltage (VDC)	Coil Resistance +/- 10% (Ohm)	Must Operate Voltage (VDC) *	Must Release-Voltage (VDC) *	Max. Coil Voltage (VDC)	Rated Power (mW)
5	5	112	3.5	0.5	11.8	225
6	6	160	4.2	0.6	14.1	
9	9	360	6.3	0.9	21.2	
12	12	660	8.5	1.2	28.3	220
18	18	1,455	12.7	1.8	42.4	225
24	24	2,350	16.8	2.4	56.6	245
48	48	8,000	33.4	4.8	105.6	290
60	60	12,500	41.7	6	132	

Note: All values in the table are valid for 20°C and zero contact current.
* Specified operate values are valid for pulse wave voltage.

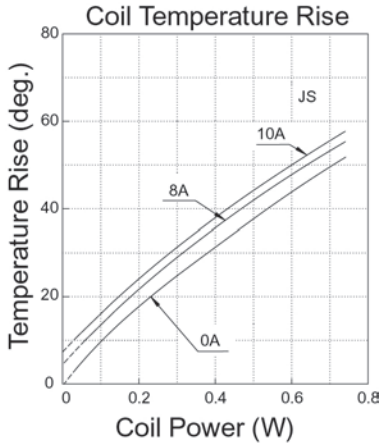
■ SAFETY STANDARDS

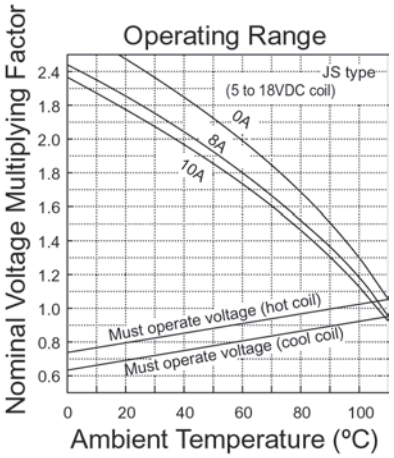
<table>
<tr><td>Type</td><td>Compliance</td><td colspan="2">Contact rating</td></tr>
<tr><td rowspan="2">UL</td><td rowspan="2">UL 508

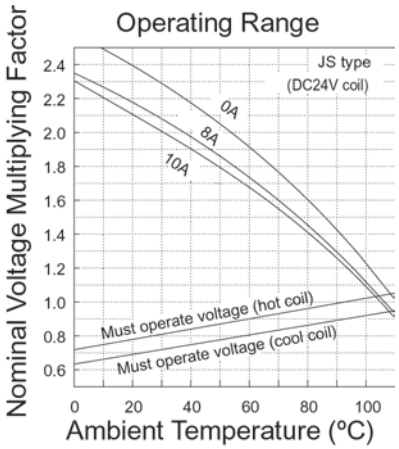
E 56140</td><td colspan="2">Flammability: UL 94-V0 (plastics)</td></tr>
<tr><td>Contact material: Nil, E</td><td>N</td></tr>
<tr><td>CSA</td><td>C22.2 No. 14
LR 35579</td><td>8 A 24 VDC (resistive) 100k
8 A, 250 VDC (resistive) 100k
10 A, 30 VDC (resistive)
10 A, 250 VAC (resistive)
1/4 HP, 125 V/ 250 VAC
1/3 HP, 125 VAC
1/2 HP, 250 VAC
Pilot duty: C150, B300
Pilot duty: 0.27A, 250VDC</td><td>8 A 24 VDC (resistive) 100k
8 A, 250 VDC (resistive) 100k
10 A, 30 VDC (resistive)
10 A, 250 VAC (resistive)
1/4 HP, 125 V/ 250 VAC
1/3 HP, 125 VAC
1/2 HP, 250 VAC
Pilot duty: A300, B300
C150, R300</td></tr>
<tr><td>VDE</td><td>0435, 0631, 0700,
40013847</td><td colspan="2">8 A 250 VAC (cos Ø=1)
8 A 24 VDC (0 ms)</td></tr>
<tr><td>SEMKO</td><td>EN 61058-1 + A1: 1993
EN 61095:1993 + A11</td><td colspan="2">Rated Voltage (V): 250
Rated Current (A): 8 (2)
or 8</td></tr>
</table>

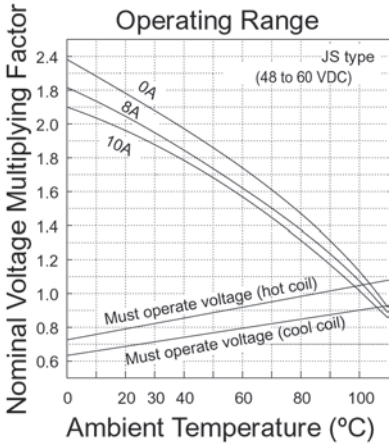
Also complies with SEV, ÖVE, FIMKO, BSI, CQC, NEMKO, DEMKO

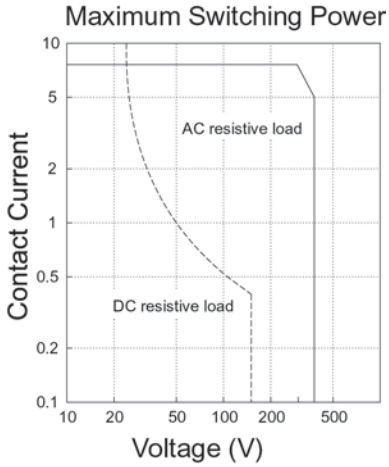
■ CHARACTERISTIC DATA

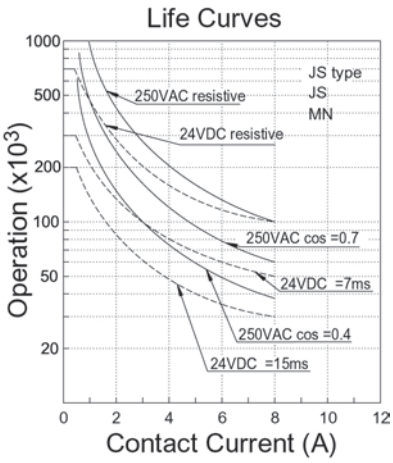




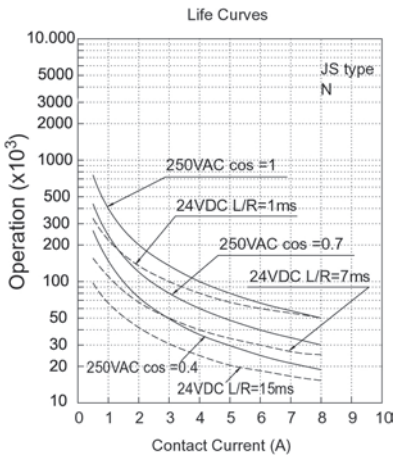


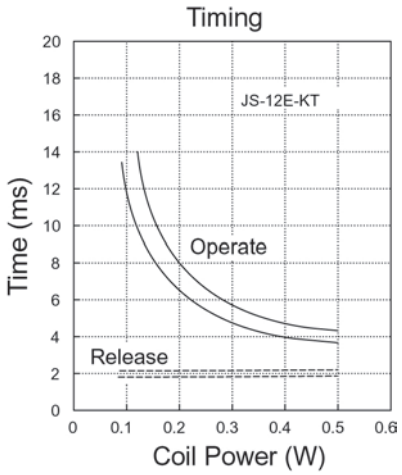


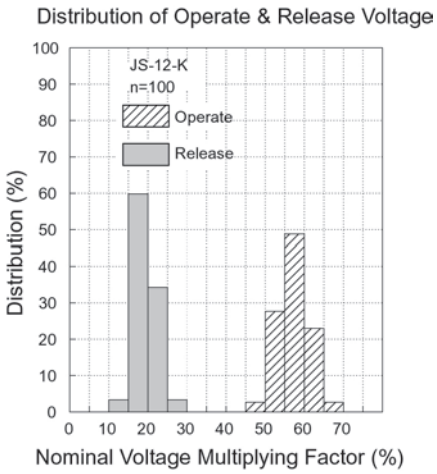


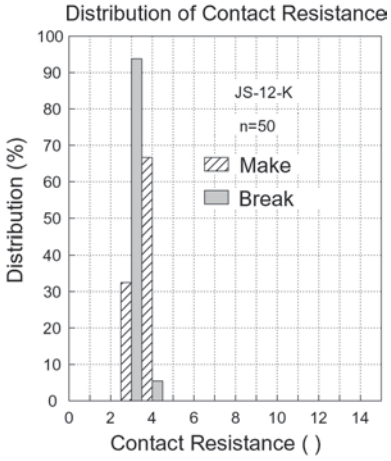


■ REFERENCE DATA





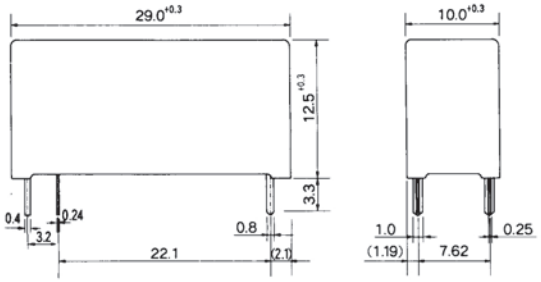




■ DIMENSIONS

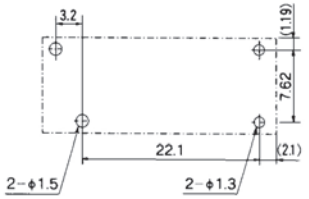
- **Dimensions**

JS-MK type

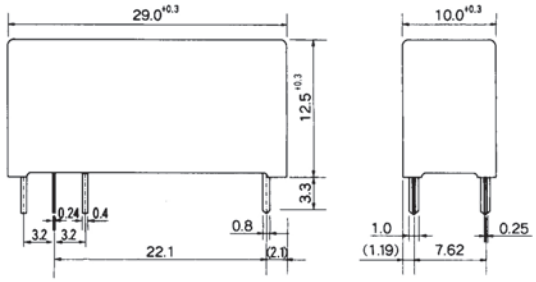


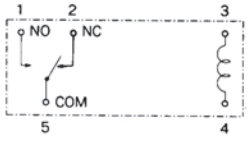
- **Schematics** (BOTTOM VIEW)

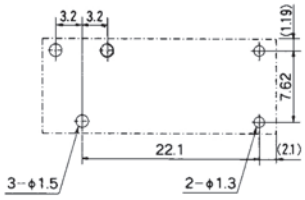
- **PC board mounting hole layout** (BOTTOM VIEW)



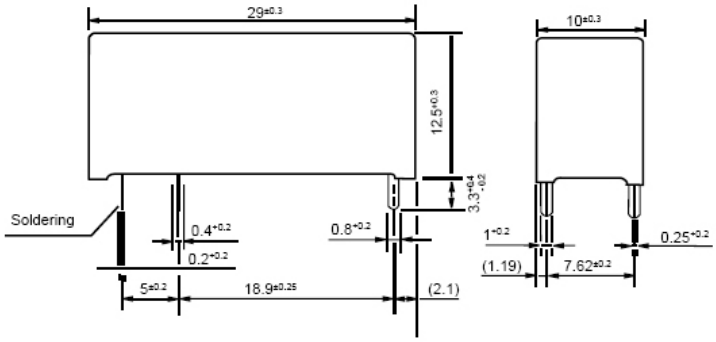
JS-K type

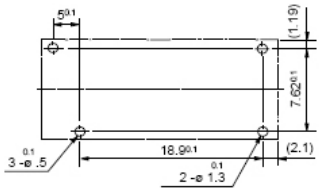






JS-MN( )-KT type





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.

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