

POWER RELAY

1 POLE—8 A (MEDIUM LOAD CONTROL)

JS SERIES

Lead Free / RoHS compliant*

■ FEATURES

- UL, CSA, VDE, SEV, SEMKO, FIMKO, ÖVE, BSI recognized
- UL class B (130°C) 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 0.11 to 0.14 W
 - —Nominal power 0.22 to 0.29 W
- High isolation in small package
 - -Insulation distance: 8 mm
 - —Dielectric strength : 5,000 VAC (between coil and contacts)
 - —Surge strength : 10,000 V
- Plastic materials—UL 94 flame class V-0
 - -UL CTI level class 2
- Plastic sealed type
- Lead Free since date code: 0438B9, 0434R Please see page 6 for more information
- * some part numbers still contain cadmium and are not

RoHS compliant

■ ORDERING INFORMATION

[Example] $\frac{JS}{(a)} - \frac{12}{(b)} \frac{M}{(c)} \frac{E}{(d)} - \frac{K}{(e)} \frac{T}{(f)} - \frac{V3}{(j)}$

(a)	Series Name	JS: JS Series			
(b)	Nominal Voltage	Refer to the COIL DATA CHART			
(c)	Contact Arrangement	Nil: 1 form C (SPDT)			
(d)	Contact Material				
		N : Silver tin oxide gold overlay			
(e)	Enclosure	K : Plastic sealed type			
(f)	Construction	Nil: 3.2 mm			
(j)	For low current application	Nil: 0.3μ gold overlay (available with Nil, N and F contact)			

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

TAKAMISANA (ADD TAKAMISAN II CD)

■ SAFETY STANDARD AND FILE NUMBERS

UL508, 873 (File No. E56140, E108658) C22.2 No. 14 (File No. LR35579)

VDE 0435, 0631, 0700 (File No. 11039-4940-1010)

Nominal voltage	Contact rating		
5 to 60 VDC	1/3 HP 125 VAC, 1/2 HP 250 VAC 10 A 30 VDC/250 VAC, resistive 3A 250 VAC inductive (PF = 0.4) Pilot duty B 300, C150		

■ SPECIFICATIONS

Contact material Silver Tin Oxide (AgSnO $\,$ 2) type: N type

Item			JS ()N-K	JS ()MN-K	JS ()MN-KT	
	Arrangement		1 Form C	1 Form A		
	Material		Au+AgSnO ₂			
	Resistance (initial)		Max. 100 ohms (at 1A 6 VDC)			
	Rating		8A 250 VAC / 24 VDC			
Contact	Max. carrying current		10A			
	Max. switching power		2,000VA/192W			
	Max. switching voltage		150VDC/400VAC			
	Min. switching load		10mA 5VDC			
	Max. switching current		10A			
Coil	Operating temperature		-40° C to +85° C (no frost)			
Time value	Operate		Max. 10ms (at nominal voltage, without bounce)			
Time value	Release (w	rithout diode)	Max. 5ms (at nominal voltage, without bounce)			
	Resistance (at 500VDC)		Min. 1,000 Mohms			
Insulation	Dielectric	B/T contacts	1,000VAC, 1 m	.C, 1 minute		
Insulation	Strength	B/T coil and contacts	4,000VAC, 1 minute			
	Surge stre	ngth	10,000V (at1.2x50 µsec.)			
	Mechanical		20x10 ⁶ operations minimum			
Life	Electrical (resistive load)		50x10 ³ ops. min.	100x10 ³ ops.	min.	
Vibration	Misoperation		10 to 55 Hz at double amplitude of 1.65mm			
resistance	Endurance		10 to 55 Hz at double amplitude of 3.3mm			
Shock	Misoperation		Min. 200m/s² (11±1ms)			
resistance	Endurance		Min. 1,000m/s² (6±1ms)			
Weight			Approx. 8g			

^{*1} Minimum switching loads mentioned above are reference values. Please perform the confirmation test with the actual 2 load before production since reference values may vary according to switching frequencies, environmental conditions and expected reliability levels.

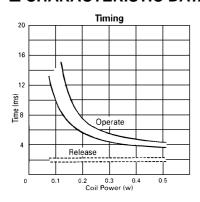
JS SERIES

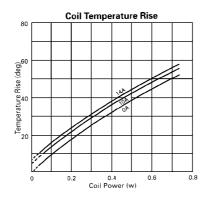
■ COIL DATA CHART

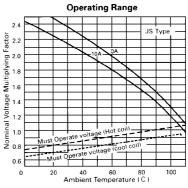
MODEL	Nominal voltage	Coil resistance (±10%)	Must operate voltage	Must release voltage	Nominal power
JS- 5(M)(NIL,E,N,D,F)-K(T)	5 VDC	112Ω	3.5 VDC	0.5 VDC	225 mW
JS- 6(M)(NIL,E,N,D,F)-K(T)	6 VDC	160Ω	4.2 VDC	0.6 VDC	225 mW
JS- 9(M)(NIL,E,N,D,F)-K(T)	9 VDC	360Ω	6.3 VDC	0.9 VDC	225 mW
JS-12(M)(NIL,E,N,D,F)-K(T)	12 VDC	660Ω	8.5 VDC	1.2 VDC	220 mW
JS-18(M)(NIL,E,N,D,F)-K(T)	18 VDC	1,455Ω	12.7 VDC	1.8 VDC	225 mW
JS-24(M)(NIL,E,N,D,F)-K(T)	24 VDC	2,350Ω	16.8 VDC	2.4 VDC	245 mW
JS-48(M)(NIL,E,N,D,F)-K(T)	48 VDC	8,000Ω	33.4 VDC	4.8 VDC	290 mW
JS-60(M)(NIL,E,N,D,F)-K(T)	60 VDC	12,500Ω	41.7 VDC	6.0 VDC	290 mW

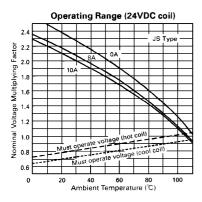
Note: All values in the table are measured at 20°C.

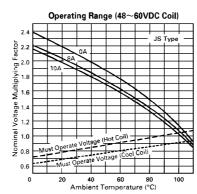
■ CHARACTERISTIC DATA

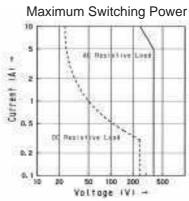


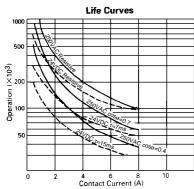






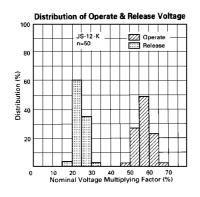


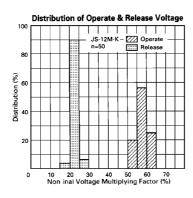


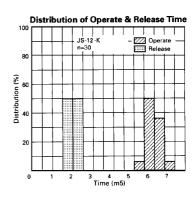


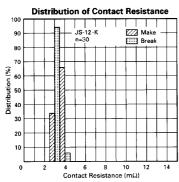
JS SERIES

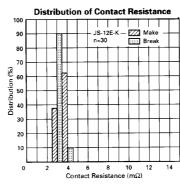
■ REFERENCE DATA

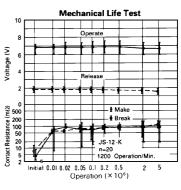


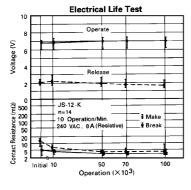


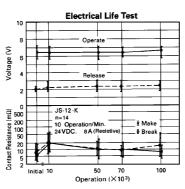






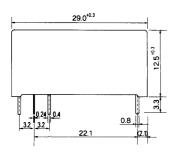


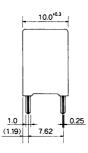




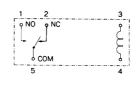
■ DIMENSIONS

Dimensions

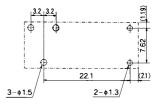




Schematics (BOTTOM VIEW)



◆ PC board mounting hole layout (BOTTOM VIEW)



JS-K type

JS SERIES

RoHS Compliance and Lead Free Relay Information

1. General Information

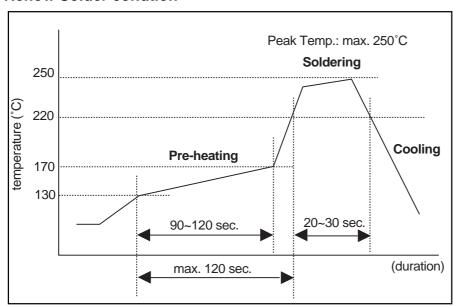
- Relays produced after the specific date code that is indicated on each data sheet are lead-free
 now. Most of our signal and power relays are lead-free. Please refer to Lead-Free Status Info.
 (http://www.fcai.fujitsu.com/pdf/LeadFreeLetter.pdf)
- Lead free solder paste currently used in relays is Sn-3.0Ag-0.5Cu. From February 2005 forward Sn-3.0Cu-Ni will be used for FTRB3 and FTR-B4 series relays.
- Most signal and some power relays also comply with RoHS. Please refer to individual data sheets. Relays that are RoHS compliant do not contain the 6 hazardous materials that are restricted by RoHS directive (lead, mercury, cadmium, chromium IV, PBB, PBDE).
- It has been verified that using lead-free relays in leaded assembly process will not cause any problems (compatible).
- "LF" is marked on each outer and inner carton. (No marking on individual relays).
- To avoid leaded relays (for lead-free sample, etc.) please consult with area sales office.

We will ship leaded relays as long as the leaded relay inventory exists.

2. Recommended Lead Free Solder Profile

Recommended solder paste Sn-3.0Ag-0.5Cu and Sn-3.0 Cu-Ni (only FTR-B3 and FTR-B4 from February 2005)

Reflow Solder condtion



Flow Solder condtion:

Pre-heating: maximum 120°C dip within 5 sec. at 260°C soler 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 realys.

4. Tin Whisker

 SnAgCu solder is known as low riskof tin whisker. No considerable length whisker was found by our in-house test.

5. Solid State Relays

Each lead terminal will be changed from solder plating to Sn plating and Nickel plating. A layer of Nickel plating is between the terminal and the Sn plating to avoid whisker.