FUJITSU THE POSSIBILITIES ARE INFINITE

POWER RELAY

1 POLE—8 A (MEDIUM LOAD CONTROL)

JS SERIES

RoHS compliant

■ FEATURES

- UL, CSA, VDE, SEV, SEMKO, FIMKO, NEMKO, DEMKO, ÖVE, CQC, BSI compliance
- 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 mm^2
- High sensitivity in small package
  —Operating power ..... 110 to 140 mW
  —Nominal power..... 220 to 290m W
- High isolation 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 since date code: 0438B9, 0434R - Please see page 7 for more information

■ ORDERING INFORMATION

[Example] JS (a) – (*) 12 (b) M (c) E (d) – K (e) T (f) –(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) 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)
(j)	For low current application	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 (-) of (*)
*: V3 is marked at different place from P/N.

■ PART NUMBERS

1. Terminal Pitch: 3.2mm

Order P/N	Series	Voltage	Contact Arrangement	Contact material	Enclosure	Terminal Pitch	Special
JS-5M ( )-K(-V3)	JS	5	M: 1 form A	*Nil:* Gold plate + silver cadmium oxide *E:* Silver cadmium oxide *N:* Gold plate silver tin oxide *F:* Gold plate silver nickel *D:* Silver nickel	K: Plastic Seal	3.2 mm	Gold plate Nil: 0.3 μm V3: 3 μm
JS-6M ( )-K(-V3)		6					
JS-9M ( )-K(-V3)		9					
JS-12M ( )-K(-V3)		12					
JS-18M ( )-K(-V3)		18					
JS-24M ( )-K(-V3)		24					
JS-48M ( )-K(-V3)		48					
JS-60M ( )-K(-V3)		60					
JS-5 ( )-K(-V3)		5	Nil: 1 form C				
JS-6 ( )-K(-V3)		6					
JS-9 ( )-K(-V3)		9					
JS-12 ( )-K(-V3)		12					
JS-18 ( )-K(-V3)		18					
JS-24 ( )-K(-V3)		24					
JS-48 ( )-K(-V3)		48					
JS-60 ( )-K(-V3)		60					

2. Terminal Pitch: 5.0mm

Order P/N	Series	Voltage	Contact Arrangement	Contact material	Enclosure	Terminal Pitch
JS-5MN-K	JS	5	M: 1 form A	*N:* Gold plate silver + tin oxide	K	T: 5.0 mm
JS-6MN-K		6				
JS-9MN-K		9				
JS-12MN-K		12				
JS-18MN-K		18				
JS-24MN-K		24				
JS-48MN-K		48				
JS-60MN-K		60				

■ COIL DATA CHART

Coil voltage	Nominal voltage	Maximum voltage*1	Coil resistance (±10%)	Must operate voltage*2	Must release voltage*2	Nominal Power
5	5 VDC	11.8 VDC	112 Ω	3.5 VDC	0.5 VDC	225 mW
6	6 VDC	14.1 VDC	160 Ω	4.2 VDC	0.6 VDC	225 mW
9	9 VDC	21.2 VDC	360 Ω	6.3 VDC	0.9 VDC	225 mW
12	12 VDC	28.3 VDC	660 Ω	8.5 VDC	1.2 VDC	220 mW
18	18 VDC	42.4 VDC	1,455 Ω	12.7 VDC	1.8 VDC	225 mW
24	24 VDC	56.6 VDC	2,350 Ω	16.8 VDC	2.4 VDC	245 mW
48	48 VDC	105.6 VDC	8,000 Ω	33.4 VDC	4.8 VDC	290 mW
60	60 VDC	132.0 VDC	12,500 Ω	41.7 VDC	6.0 VDC	290 mW

Note : All values in the table are measured at 20°C.
*1: No contact current at 20°C.
*2: Specified values are subject to pulse wave voltage.

■ SPECIFICATIONS

Item			Non-V3 type	V3 type
			JS ( )-E-K, JS ( )-K, JS ( )-N-K, JS ( )-F-K, JS ( )-D-K	JS ( )-K, JS ( )N-K
Contact	Arrangement		1 Form C (SPDT), 1 Form A (SPST-NO)	
	Material		0.3μ Ag plated	3μ Ag plated
	Configuration		Single,	
	Resistance (initial)		Max. 100mΩ 1A, 6VDC)	Max. 30mΩ (1A 6VDC)
	Rating		8A 250 VAC / 24 VDC	
	Max. carrying current		10A	
	Max. switching power		2,000 VA / 192 W	
	Max. switching voltage		400 VAC/ 150 VDC	
	Min. switching load		100 mA 5 VDC	10 mA 5 VDC
Coil	Nominal power (at 20°C)		220 to 290 mW	
	Operate power (at 20°C)		110 to 140 mW	
	Operating temperature (at 20°C)		-40°C to +85°C (no frost)	
Time value	Operate		Max. 10 ms (at nominal voltage, without bounce)	
	Release (without diode)		Max. 5 ms (at nominal voltage, without bounce)	
Life	Mechanical		Min. $20x10^6$ operations	
	Electrical	AC rated load	Min. $100x10^6$ operations (JS-( )N-K min. $10x10^3$ ops.)	
		DC rated load	Min. $100x10^6$ operations (JS-( )N-K min. $10x10^3$ ops.)	
Vibration resistance	Misoperation		10 to 55 Hz at double amplitude of 1.65 mm	
	Endurance		10 to 55 Hz at double amplitude of 3.3 mm	
Shock resistance	Misoperation		Min. 100 m/s^2 (11±1 ms)	
	Endurance		Min. 1,000 m/s^2 (6±1 ms)	
Weight			Approx. 8 g	

■ INSULATION

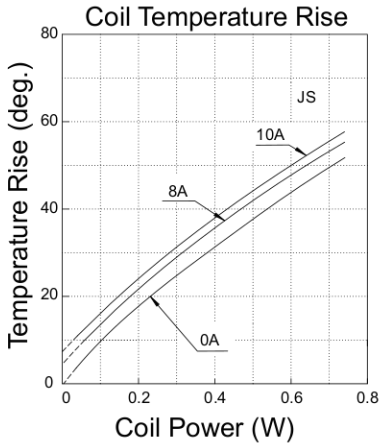
Items		
Resistive (at 500 VDC)		Min. 1,000 MΩ
Dielectric Strength	Open contacts	1,000 VAC (50/60 Hz) 1 min.
	Coil and contacts	5,000 VAC (50/60 Hz) 1 min.
Surge strength (coil and contacts)		10,000 V (1.2 x 50 μs standard wave)
Clearance / crepage		8 mm / 8 mm
Isolation (DIN EN 61810-1 VDE 0435) Voltage Pollution Isolation material group		 250 V 3 III a
Isolation category / Reference voltage (VDE 01106)		C / 250V

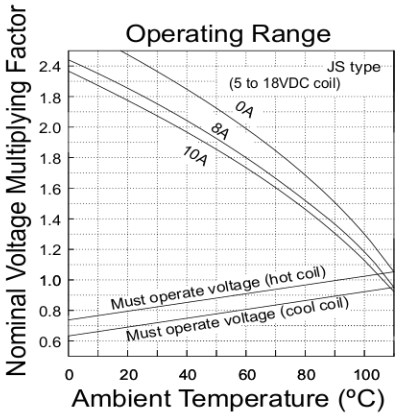
■ SAFETY STANDARD (VDE 01106)

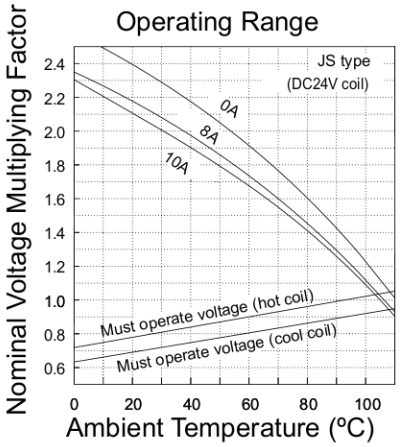
Type	Compliance	Contact rating	
UL	UL 508 E 56140	Flammability: UL 94-V0 (plastics)	
		Contact material: Nil, E	N
CSA	C22.2 No. 14 LR 35579	8 A 24 VDC (resistive) 100k 8 A, 250 VDC (resistive) 100k 10 A, 30 VDC (resistive) 10 A, 250 VAC (resistive) 1/4 HP, 125 V/ 250 VAC 1/3 HP, 125 VAC 1/2 HP, 250 VAC Pilot duty: C150, B300 Pilot duty: 0.27A, 250VDC	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
VDE	0435, 0631, 0700	8 A 250 VAC (cos Ø=1) 8 A 24 VDC (0 ms)	
SEMKO	EN 61058-1 + A1: 1993 EN 61095:1993 + A11	Rated Voltage (V): 250 Rated Current (A): 8 (2) or 8	

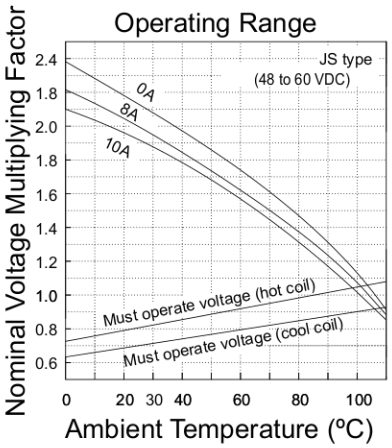
Also complies with SEV, ÖVE, FIMKO, BSI, CQC, NEMKO, DEMKO

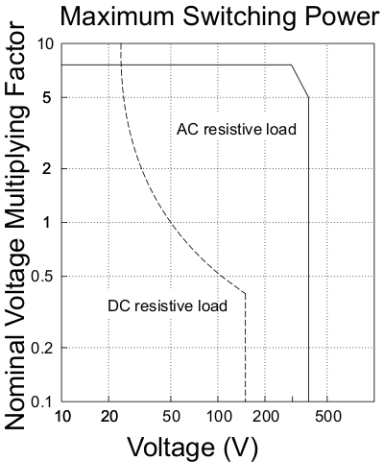
■ CHARACTERISTIC DATA

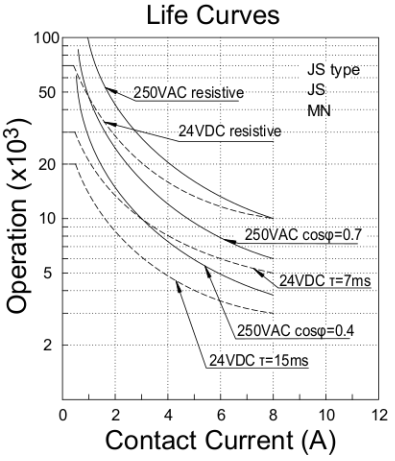












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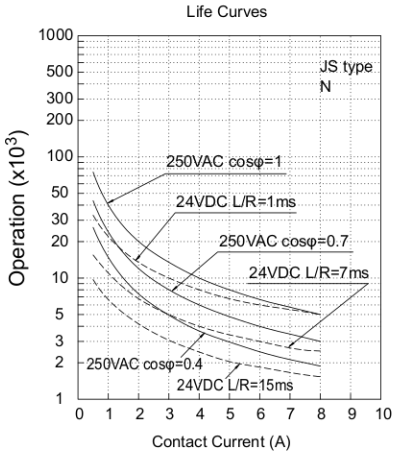
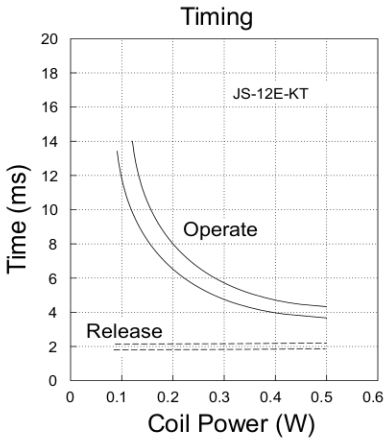
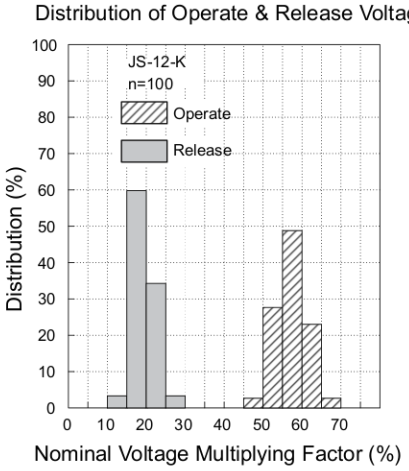
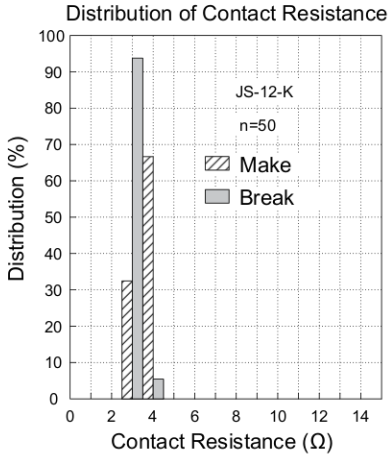




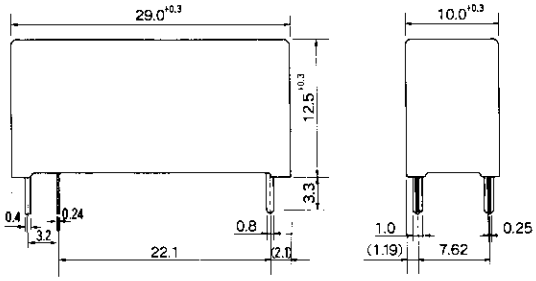


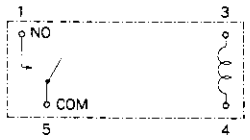


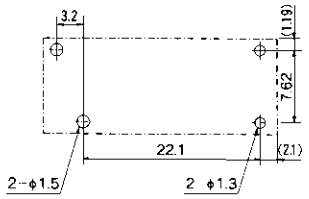
■ DIMENSIONS

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

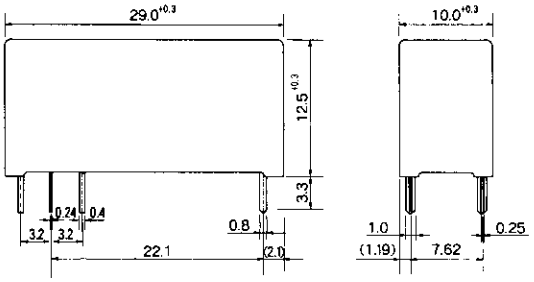
JS-MK type

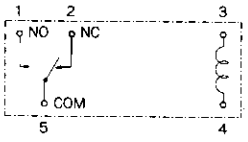


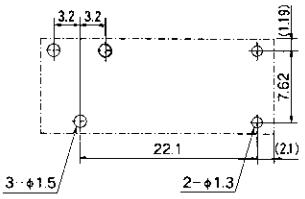




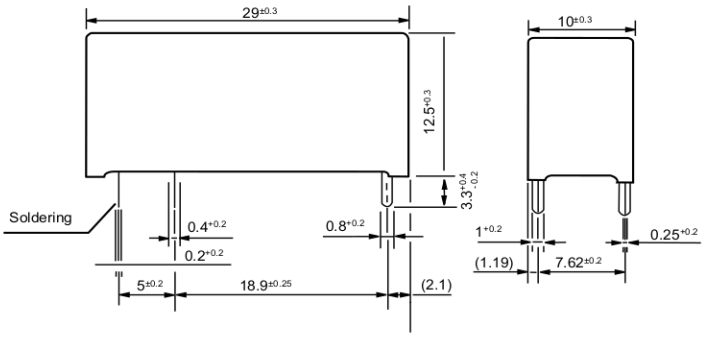
JS-K type

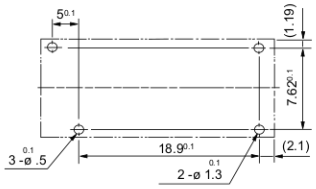






JS-MN( )-KT type





Unit: mm

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. All of our signal and power relays are lead-free. Please refer to Lead-Free Status Info. (http://www.fujitsu.com/us/downloads/MICRO/fcai/relays/lead-free-letter.pdf)
- Lead free solder paste currently used in relays is Sn-3.0Ag-0.5Cu.
- All signal and power relays also comply with RoHS. Please refer to individual data sheets. Relays that are RoHS compliant do not contain the 5 hazardous materials that are restricted by RoHS directive (lead, mercury, 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.

Note: Cadmium was exempted from RoHS on October 21, 2005. (Amendment to Directive 2002/95/EC)

2. Recommended Lead Free Solder Profile

- Recommended solder paste Sn-3.0Ag-0.5Cu.

Reflow Solder condtion

Flow Solder condtion:

Pre-heating:	maximum 120˚C
Soldering:	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

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

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