FUJITSU

POWER RELAY

1 POLE - 8A (65A High Inrush Current)

JS-KS Series

■ FEATURES

- Inrush current 65A, 1000W, lamp load
- UL class B (130°C) coil wire insulation
- 1 form A (SPST-NO)
- Low profile and space saving
  Height: 12.5 mm - Mounting space: 290 mm2
- High sensitivity in small package
  Operating power 84 to 110 mW
  Nominal power 220 to 290 mW
- High insulation in small package
  Insulation distance : 8.0 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, RTIII
- RoHS compliant
  Please see page 6 for more information

■ Part Numbers

[Example] JS - 12 M N - K S
(a) (b) (c) (d) (e) (f)

(a)	Relay type	JS : JS-KS series
(b)	Contact rated voltage	12 : 5....60VDC Coil rating table at page 3
(c)	Coil configuration	M : 1 form A (SPST-NO)
(d)	Contact material	N : Gold flash silver tin oxide
(e)	Enclosure	K : Plastic sealed type, RTIII
(f)	Construction	S : 5.0mm (lamp load 1000W, 230VAC, 25k operations)

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

■ Specifications

Item			JS-( )MN - KS	Remarks / conditions
Contact data	Configuration		1 form A (SPST-NO)	
	Construction		Single	
	Material		$AgSnO_2$ + Gold flash 0.1µm	
	Resistance		Max.100mΩ at 6VDC, 1A	
	Contact rating		8A, 250VAC / 24VDC	Resistive
	Max. carrying current		10A	
	Max. inrush current		65A, 250VAC	
	Max. switching voltage		400VAC / 150VDC	
	Max. switching power		2000VA / 192W	
	Min. switching load *1		100 mA, 5VDC	
Coil	Rated power (20°C)		220 - 290mW	
	Operate power (20°C)		84 - 110mW	
	Operating temperature range		-40°C ~ +85°C (at rated voltage)	No frost
Timing data	Operate		Max. 10ms	without bounce
	Release		Max. 5ms	without bounce, no diode
Life	Mechanical		Min. 20 x 10^6 operations	
	Electrical (resistive)	AC contact rating	Min. 100 x 10^3 operations	At rated load
		DC contact rating	Min. 100 x 10^3 operations	At rated load
		Lamp load (TV-4)	1000W 25x10^3 operations	
Insulation	Insulation resistance		Min. 1000MΩ at 500VDC	
	Dielectric strength	Open contacts	1000VAC (50/60Hz), 1 minute	
		Coil contact	5000VAC (50/60Hz), 1 minute	
	Surge strength	Coil to contacts	10000V / 1.2 x 50µs standard wave	
	Clearance		8mm	
	Creepage		8mm	
	EN61810-1, VDE0435	Voltage	250V	
		Pollution	3	
		Material group	III a	
		Category	C / 250V (reference voltage) (VDE 01106)	
Other	Vibration resistance	Misoperation	10Hz ~ 55Hz ~ 10Hz single amplitude 0.825mm	
		Endurance	10Hz ~ 55Hz ~ 10Hz single amplitude 1.65mm	
	Shock resistance	Misoperation	Min. 100m/s² (11 ± 1ms)	
		Endurance	Min. 1,000m/s² (6 ± 1ms)	
	Dimensions / weight		10.0 x 29.0 x 12.5 mm / approx. 8.0g	
	Sealing		Plastic sealed	

*1: 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 Data

Coil code	Rated Coil Voltage (VDC)	Coil Resistance +/-10% (Ω)	Must Operate Voltage* (VDC)	Must Release Voltage* (VDC)	Rated Power (mW)
005	5	112	3.5	0.5	225
006	6	160	4.2	0.6	
009	9	360	6.3	0.9	
012	12	660	8.5	1.2	220
018	18	1,455	12.7	1.8	225
024	24	2,350	16.8	2.4	245
048	48	8,000	33.4	4.8	290
060	60	12,500	41.7	6.0	

Note: All values in the table are valid at 20°C and zero contact current, unless otherwise specified.

*: Specified operated values are valid for pulse wave voltage.

Note: Please use at rated coil voltage. Please refer to characteristic data and set up adequate voltage in case of use at over voltage.

Care shall be taken on the heat generated on PC board when maximum carrying current exceeds 10A. Please perform the confirmation test with actual conditions.

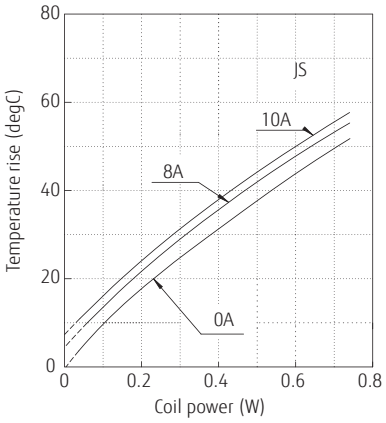
■ Safety Standards

Type	Compliance	Contact rating
UL	UL 508 File No. E 56140	Flammability: UL 94-V-0 (plastics)
CSA	C22.2 No. 14 File No. LR 35579	10A, 30VDC (resistive) 10A, 250 VAC (resistive) TV-4, 120VAC/240VAC (N.O.) 1/4hp 125VAC/250VAC, 1/3hp 125vac, 1/2hp 250VAC Pilot duty: C150, A300, B300, R300

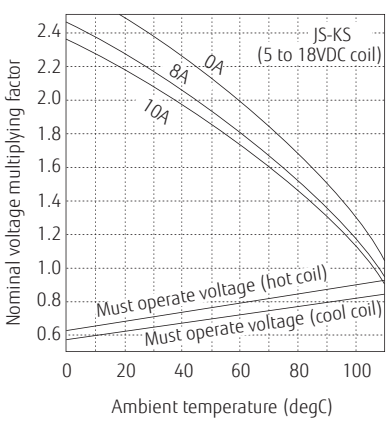
■ Characteristic Data (Reference)

* Characteristic data is not guaranteed value but measured values of samples from production line.

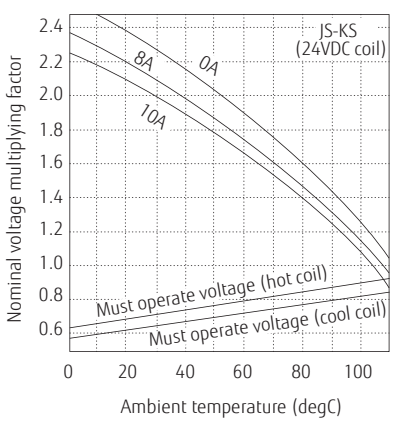
Coil temparature rise



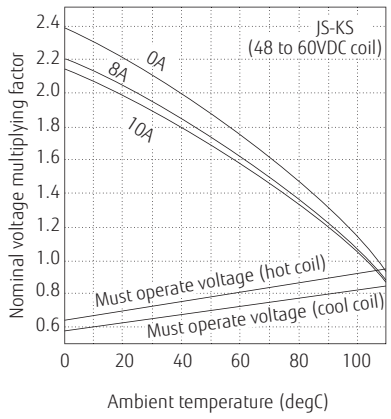
Operating range



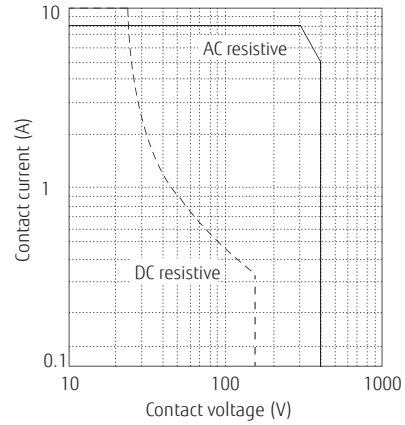
Operating range



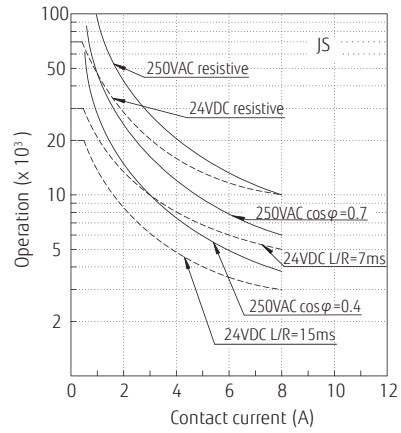
Operation range



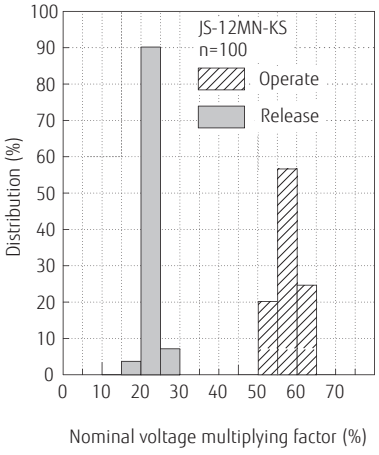
Minimum switching power



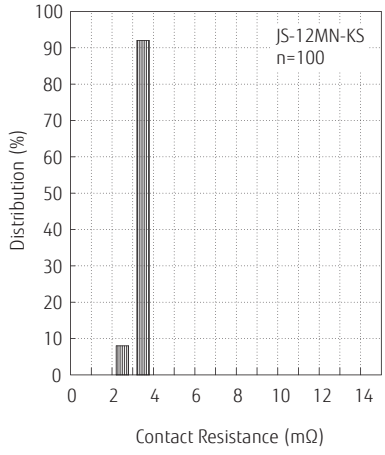
Life curves



Distribution of operate/release voltage

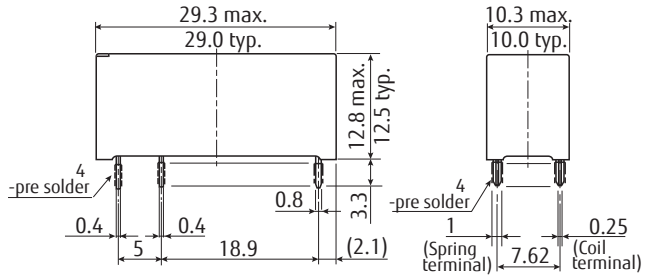


Distribution of contact resistance



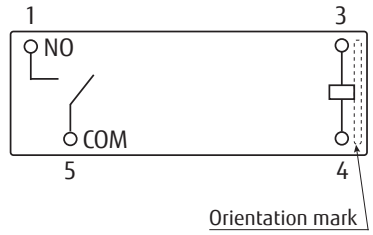
■ Dimensions

- Dimensions

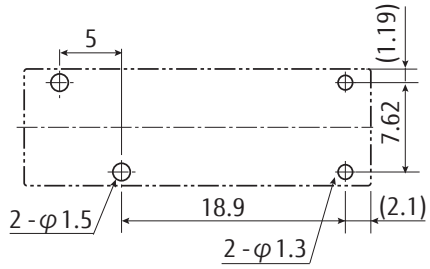


* Dimensions of the terminals do not include thickness of pre-solder.

- Schematics
  (BOTTOM VIEW)



- PC Board Mounting Hole Layout
  (BOTTOM VIEW)



( ): Reference value
Unit: mm

* Tolerance of PC board mounting hole layout : ±0.1 unless otherwise specified.

CAUTIONS

- All values mentioned in this datasheet are provided under ideal conditions. Please perform the confirmation test before actual use.
- Reflow soldering is prohibited.
- Do not use relays in the atmosphere with sulfide gas, chloride gas or nitric oxide. Contact resistance may increase.
- Do not use silicon or silicon-containing product or materials near relays. It may cause contact failure.

GENERAL INFORMATION

1. ROHS Compliance

- All relays produced by Fujitsu Components are compliant with RoHS directive 2011/65/EU, including commission delegated directive 2015/863.

2. Recommended lead free solder condition

- 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.
- Recommended solder for assembly: Sn-3.0Ag-0.5Cu.

Flow Solder Condition:

Pre-Heating:	maximum 120˚C within 90 sec.
Soldering:	dip within 5 sec. at 255°C±5°C solder bath

Relay must be cooled by air immediately after soldering

Solder by Soldering Iron:

Soldering Iron:	30-60W
Temperature:	maximum 340-360˚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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