

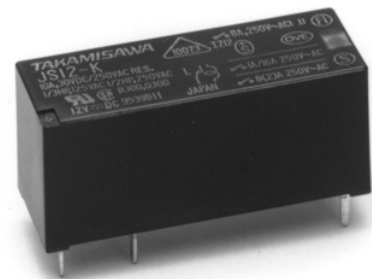
POWER RELAY

1 POLE - 8A Medium Load Control

JS Series

■ FEATURES

- 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 : 8.0 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
- Various contact material options
- RoHS compliant. Please see page 7 for more information



■ PARTNUMBER INFORMATION

[Example] JS - 12 M E - K T - V3 *

 (a) (b) (c) (d) (e) (f) (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 M | : 1 form C (SPDT) : 1 form A (SPST-NO) |
| (d) | Contact material | Nil D E F N | : Gold plate silver cadmium oxide : Silver nickel : Silver cadmium oxide : Gold plate silver nickel : Gold plate silver tin oxide |
| (e) | Enclosure | K | : Plastic sealed type |
| (f) | Construction | Nil T | : 3.2mm : 5.0mm (only JS-MN, MD, MF) |
| (g) | Gold plating | Nil V3 | : 0.3μ gold overlay (available with Nil, N and F contact) : 3.0μ gold overlay for lower current applications (available with Nil and N) (not available for T , 5.0mm type) |

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

*: V3 is marked at different position on the relay

E.g.: Ordering code: JS-12E-K Actual marking: JS12E-K

JS SERIES

■ 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 6VDC, 1A | ≤ 30 mΩ at 6VDC, 1A |
| | Contact rating | | 8A, 250VAC / 24VDC | |
| | Max. carrying current | | 10A | |
| | Max. switching voltage | | 400VAC / 150VDC | |
| | Max. switching power | | 2,000VA / 192W | |
| | Min. switching load * | | 100mA, 5VDC | 10mA, 5VDC |
| 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 - 290mW | |
| | Operate power (at 20 °C) | | 110 - 140mW | |
| | 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) | | ≥ 1,000MΩ 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 | | 8 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/s ² (11 ± 1ms) | |
| | | Endurance | Min. 1,000m/s ² (6 ± 1ms) | |
| | Weight | Approximately 8.0 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 conditions 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 | 6.0 | 132.0 | |

Note: All values in the table are valid for 20°C and zero contact current.

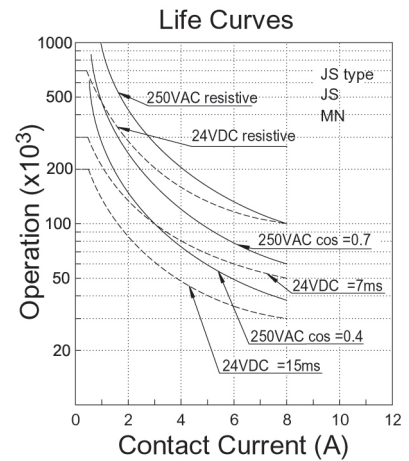
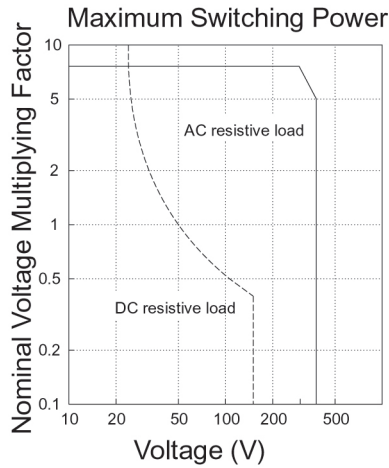
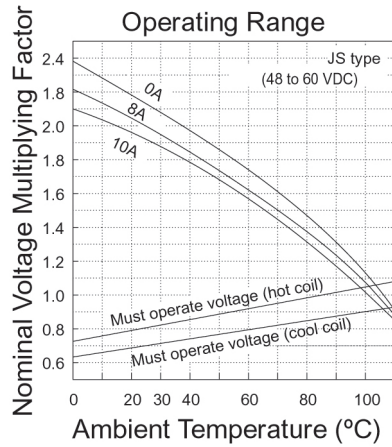
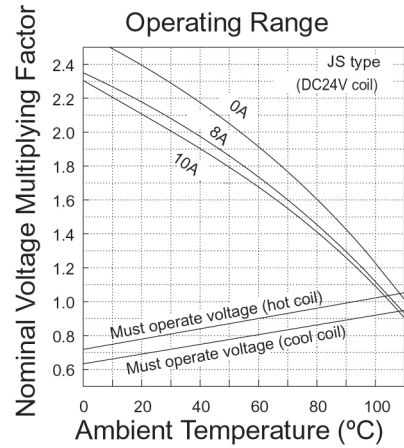
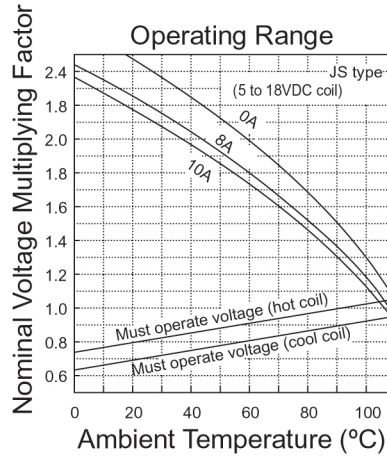
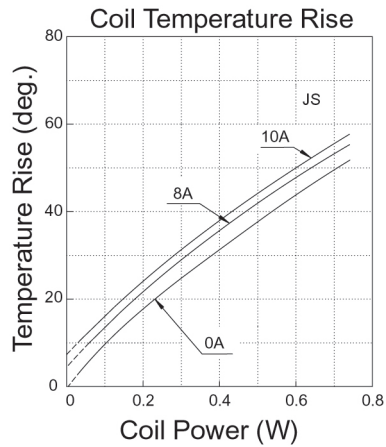
* Specified operate values are valid for pulse wave voltage.

■ SAFETY STANDARDS

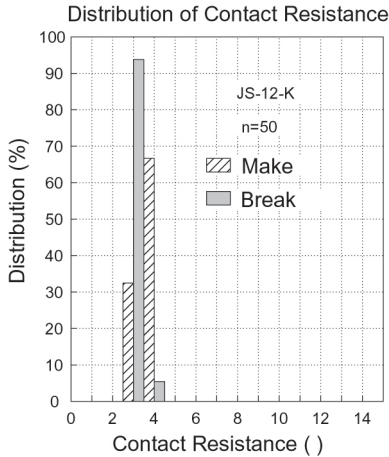
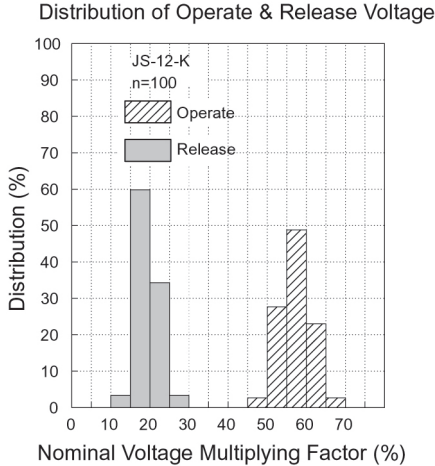
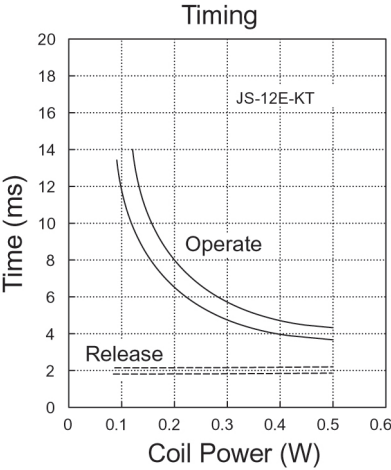
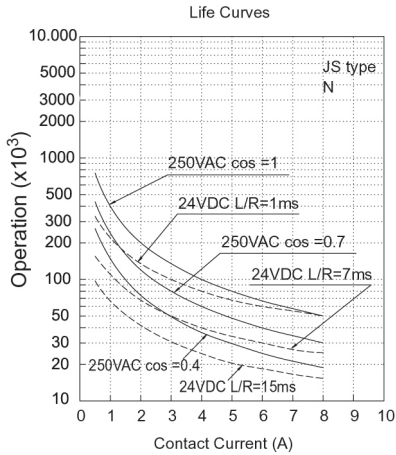
| Type | Compliance | Contact rating | |
|-------|--|--|---|
| UL | UL 508 | Flammability: UL 94-V0 (plastics) | |
| | E 56140 | Contact material: Nil, E | N |
| CSA | C22.2 No. 14 LR 35579 | 8A 24VDC (resistive) 100k 8A, 250VAC (resistive) 100k 10A, 30VDC (resistive) 10A, 250VAC (resistive) 1/4HP, 125VAC / 250VAC 1/3HP, 125VAC 1/2HP, 250VAC Pilot duty: C150, B300 Pilot duty: 0.27A, 250VDC | 8A 24VDC (resistive) 100k 8A, 250VAC (resistive) 100k 10A, 30VDC (resistive) 10A, 250VAC (resistive) 1/4HP, 125VAC / 250VAC 1/3HP, 125VAC 1/2HP, 250VAC Pilot duty: A300, B300 |
| VDE | 0435, 0631, 0700, 40013847 | 8A 250VAC (cos Ø=1) 8A 24VDC (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



■ REFERENCE DATA



RoHS Compliance and Lead Free Information

1. General Information

- All signal and power relays produced by Fujitsu Components are compliant with RoHS directive 2002/95/EC 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.

Fujitsu Components International Headquarter Offices

Japan

Fujitsu Component Limited
Gotanda-Chuo Building
3-5, Higashigotanda 2-chome, Shinagawa-ku
Tokyo 141, Japan
Tel: (81-3) 5449-7010
Fax: (81-3) 5449-2626
Email: promothq@ft.ed.fujitsu.com
Web: www.fcl.fujitsu.com

North and South America

Fujitsu Components America, Inc.
250 E. Caribbean Drive
Sunnyvale, CA 94089 U.S.A.
Tel: (1-408) 745-4900
Fax: (1-408) 745-4970
Email: components@us.fujitsu.com
Web: <http://us.fujitsu.com/components>

Europe

Fujitsu Components Europe B.V.
Diamantlaan 25
2132 WV Hoofddorp
Netherlands
Tel: (31-23) 5560910
Fax: (31-23) 5560950
Email: info@fceu.fujitsu.com
Web: emea.fujitsu.com/components/

Asia Pacific

Fujitsu Components Asia Ltd.
102E Pasir Panjang Road
#01-01 Citilink Warehouse Complex
Singapore 118529
Tel: (65) 6375-8560
Fax: (65) 6273-3021
Email: fcal@fcal.fujitsu.com
Web: <http://www.fujitsu.com/sg/services/micro/components/>

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