

POWER RELAY

1 POLE - 8A Polarized Latching Type

JSL Series

■ FEATURES

- Small footprint
Width: 10mm
Height: 12.5mm
- High insulation
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
- RoHS compliant
Please see page 7 for more information



■ Part Numbers

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

| | | |
|-----|-----------------------|--|
| (a) | Relay type | JS : JSL series |
| (b) | Coil type | Nil : 1 coil D : 2 coils |
| (c) | Coil rated voltage | 12 : 3...24VDC Contact rating table at page 3 |
| (d) | Contact configuration | Nil : 1 form c M : 1 form a |
| (e) | Contact material | N : AgSnO ₂ , Au plated |
| (f) | Sealed type | K : Plastic sealed type |
| (g) | Special type | Nil : Standard |

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

JSL Series

■ Specifications

| Item | | | JSL (1 coil) | JSL-D (2 coils) | Remarks / conditions |
|--------------|---------------------------------------|------------------|---|-----------------|--------------------------|
| Contact data | Configuration | | 1 form A, 1 form C | | |
| | Construction | | Single | | |
| | Material | | AgSnO ₂ + Au plated | | |
| | Resistance | | Max.100mΩ at 6VDC, 1A | | |
| | Contact rating | | 8A, 250VAC / 24VDC | | Resistive |
| | Max. carrying current | | 10A | | |
| | Max. switching voltage | | 400VAC / 150VDC | | |
| | Max. switching power | | 2000VA / 192W | | |
| | Max. switching current | | 10A | | |
| | Min. switching load ^{*1} | | 100 mA, 5VDC | | |
| Coil | Rated power (20°C) | | 220 - 290mW | 480mW | |
| | Operating temperature range | | -40°C ~ +85°C (at rated voltage) | | No frost |
| Timing data | Set / reset (at nominal coil voltage) | | Max. 10ms | | without bounce, no diode |
| | Applied pulse width | | 20ms to 1000ms | | |
| Life | Mechanical | | Min. 5 x 10 ⁶ operations | | |
| | Electrical (resistive) | | Min. 50 x 10 ³ operations | | At rated load |
| 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 | | | |
| Other | Vibration resistance | Misoperation | 10Hz ~ 55Hz ~ 10Hz single amplitude 1mm | | |
| | | Endurance | 10Hz ~ 55Hz ~ 10Hz single amplitude 1.5mm | | |
| | Shock resistance | Misoperation | Min. 100m/s ² (11 ± 1ms) | | |
| | | Endurance | Min. 1,000m/s ² (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 conditions and expected reliability levels.

JSL Series

■ Coil Data

| Coil code | 1 coil | | | 2 coils | | |
|-----------|-----------------|----------|----------------------------------|-----------------|----------|----------------------------------|
| | Operating range | | Coil Resistance +/- 10% (Ohm) | Operating range | | Coil Resistance +/- 10% (Ohm) |
| | Min. VDC | Max. VDC | | Min. VDC | Max. VDC | |
| 003 | 2.4 | 5.4 | 41 | 2.4 | 5.4 | 19 |
| 005 | 4 | 9 | 114 | 4 | 9 | 53 |
| 012 | 9.6 | 21.2 | 655 | 9.6 | 21.2 | 300 |
| 024 | 19.2 | 42.2 | 2304 | 19.2 | 42.2 | 1200 |

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

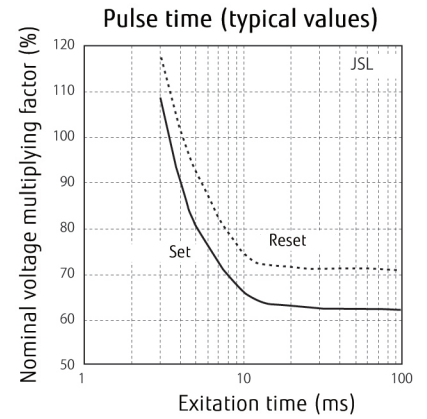
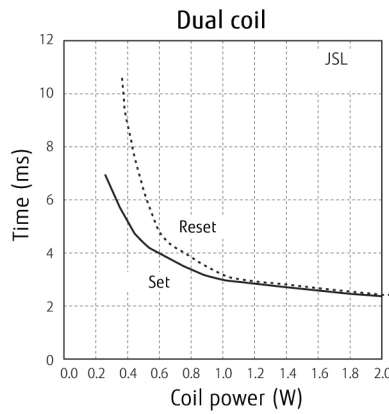
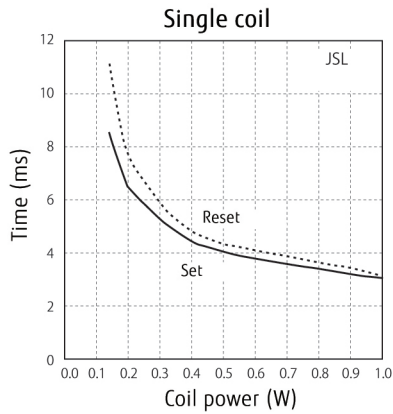
| Type | Compliance | Contact rating |
|------|--|--|
| UL | UL 508 File No. E63614 | Flammability: UL 94-V-0 (plastics) 8A, 24 VDC (resistive) 8A, 250VAC (resistive) |
| CSA | C22.2 No. 14 File No. LR 40304 | |
| VDE | IEC/EN61810-1 EN60335-1 clause 15.3; 16.3; 29.1; 29.2; 29.3 EN60730-1 clause 12.2; 13.2; 20.1; 20.2; 20.3; 17.5; 17.7; 17.8 EN60974-1 Appendix C | 8A, 24VDC (0ms) 8A, 250VAC (cosφ=1) |

JSL Series

■ Characteristic Data (Reference)

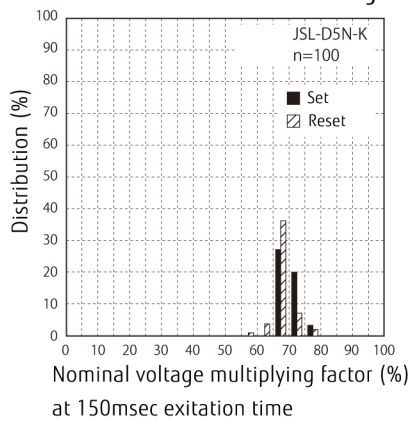
* Characteristic data is not guaranteed value but measured values of samples from production line.

Set/Reset time characteristic (typical values)

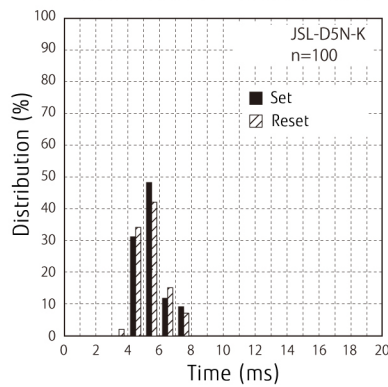


■ Reference Data

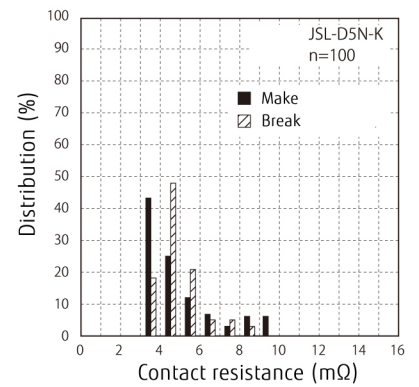
Distribution of set/reset voltage



Distribution of set/reset time



Distribution of contact resistance



■ Reference Data

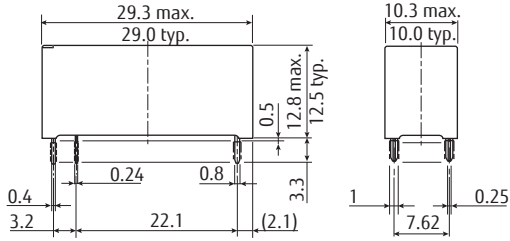
| Version | 1 coil | | 2 coil | | |
|--------------|--------|---|--------|---|---|
| Terminal No. | 3 | 5 | 3 | 4 | 5 |
| Set | - | + | | - | + |
| Reset | + | - | + | - | |

JSL Series

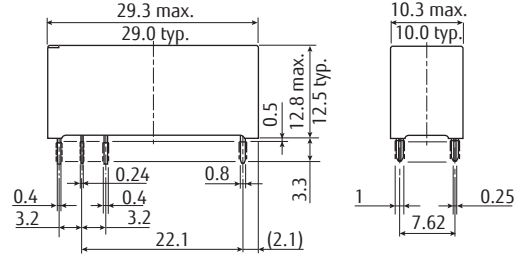
■ Dimensions

- Dimensions

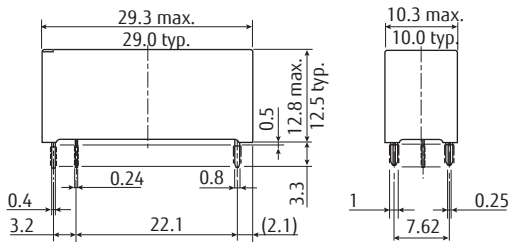
JSL-M



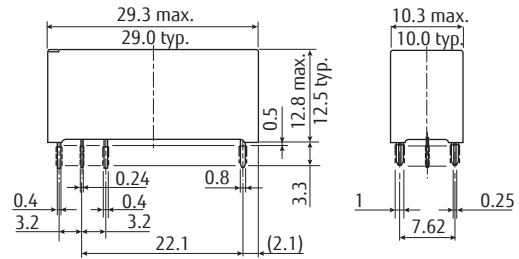
JSL



JSL-DM



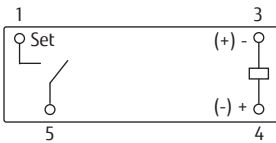
JSL-D



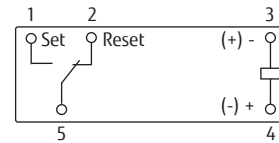
* Dimensions of the terminals do not include thickness of pre-solder.

- Schematics
(BOTTOM VIEW)

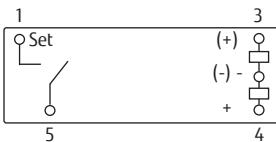
JSL-M



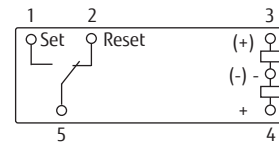
JSL



JSL-DM



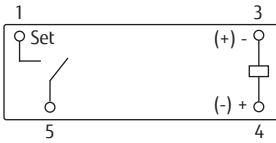
JSL-D



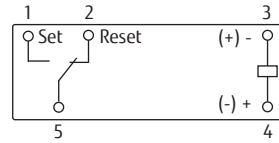
JSL Series

- PC Board Mounting Hole Layout (BOTTOM VIEW)

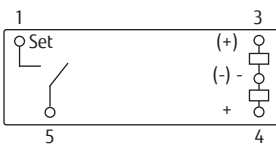
JSL-M



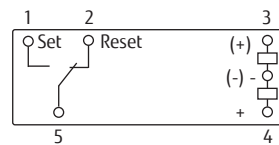
JSL



JSL-DM



JSL-D



(): Reference value
Unit: mm

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

JSL Series

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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| | | |
|--|--|---|
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