

POWER RELAY

1 POLE - 8A Polarized Latching Type JSL Series

■ FEATURES

- Small footprint
 - Width: 10mm
 - Height: 12.5mm
 - High insulation
 - Insulation distance: 8 mm (between coil and contacts)
 - Dielectric strength: 5,000 VAC (between coil and contacts)
 - Surge strength: 10,000 V (between coil and contacts)
 - Plastic materials
 - UL 94 flame class V-0
 - Plastic sealed type
 - Cadmium free relay
 - Lead-free relay
 - RoHS compliant.
- Please see page 5 for more information



■ PARTNUMBER INFORMATION

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

| | | | |
|-----|-----------------------|----------|---|
| (a) | Relay type | JS | : JS Series |
| (b) | Operating function | L | : Latching type |
| (c) | Coil type | Nil D | : 1 coil : 2 coils |
| (d) | Coil rated voltage | 12 | : 3.....24 VDC Coil rating table at page 3 |
| (e) | Contact configuration | Nil M | : 1 form C : 1 form A |
| (f) | Contact material | N | : AgSnO ₂ , Au plated |
| (g) | Sealed type | K | : Wash tight |

JSL SERIES

■ SPECIFICATION

| Item | | | JSL (1 coil) | JSL (2 coils) |
|--------------|---------------------------------------|------------------|---|---------------|
| Contact Data | Configuration | | 1 form A, 1 form C | |
| | Construction | | Single | |
| | Material | | AgSnO ₂ | |
| | Resistance (initial) | | ≤ 100 mΩ at 6VDC, 1A | |
| | Contact rating | | 8A, 250VAC / 24VDC | |
| | Max. carrying current | | 10A | |
| | Max. switching voltage | | 400VAC / 150VDC | |
| | Max. switching power | | 2,000VA | |
| | Max. switching current | | 10A | |
| | Min. switching load * | | 100 mA, 5 VDC | |
| Life | Mechanical | | 5 x 10 ⁶ operations minimum | |
| | Electrical | | 50 x 10 ³ operations minimum | |
| Coil Data | Rated power (at 20 °C) | | 220mW | 480mW |
| | Operating temperature range | | -40 °C to +70 °C (no frost) | |
| Timing Data | Set / reset (at nominal coil voltage) | | ≤ 10ms (no bounce included) | |
| | Exitation time | | ≥ 20ms | |
| 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 | |
| Other | Vibration resistance | Misoperation>1us | 10 to 55Hz double amplitude 2 mm | |
| | | Endurance | 10 to 55Hz double amplitude 3 mm | |
| | Shock | Misoperation>1us | Min. 200m/s ² (11 ± 1ms) | |
| | | Endurance | Min. 1,000m/s ² (6 ± 1ms) | |
| | Weight | | Approximately 8 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 contions and expected reliability levels.

■ COIL RATING

| 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 | |
| 3 | 2.4 | 5.4 | 41 | 2.4 | 5.4 | 19 |
| 5 | 4 | 9 | 114 | 4 | 9 | 53 |
| 6 | 4.8 | 10.6 | 164 | 4.8 | 10.6 | 75 |
| 9 | 7.2 | 15.9 | 368 | 7.2 | 15.9 | 169 |
| 12 | 9.6 | 21.2 | 655 | 9.6 | 21.2 | 300 |
| 24 | 19.2 | 42.2 | 2,304 | 19.2 | 42.2 | 1,200 |

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

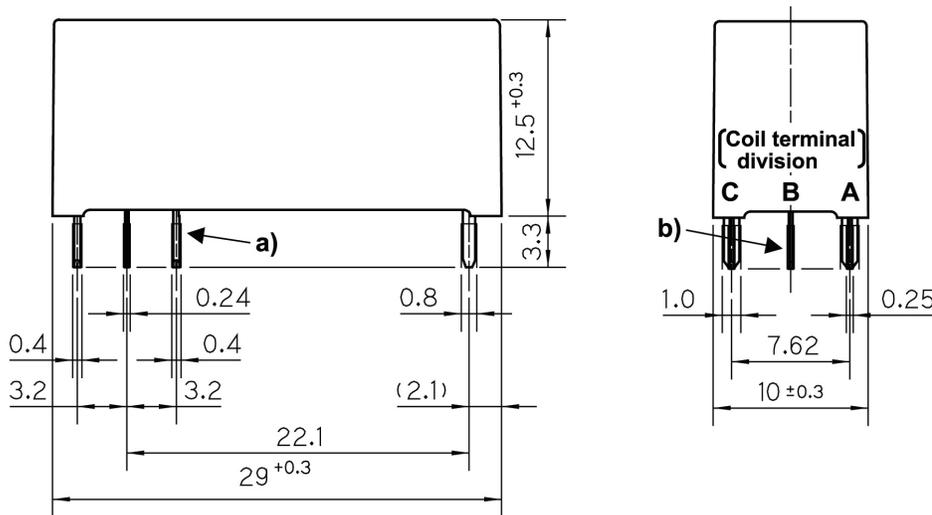
* Specified operate values are valid for pulse wave voltage.

■ COIL POLARITY

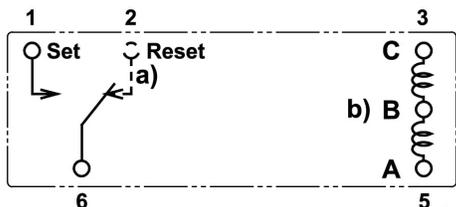
| Version | 1 coil | | 2 coils | | |
|------------------------|--------|---|---------|---|---|
| Coil terminal division | A | C | A | B | C |
| Set | + | - | + | - | |
| Reset | - | + | | - | + |

■ DIMENSIONS

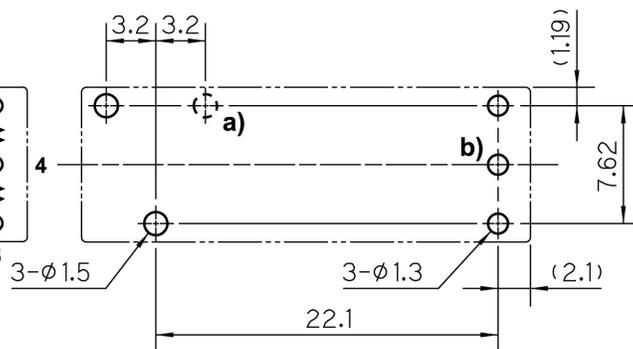
● Dimensions



● Schematics (BOTTOM VIEW)



● PC board mounting hole layout (BOTTOM VIEW)



a) for 1 form C version only
b) for 2 coils version only

Unit: mm

RoHS Compliance and Lead Free Information

1. General Information

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

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