

POWER RELAY

1 POLE - 3, 5A Medium Load Control (AgCdO contacts)

JY Series

■ FEATURES

- UL, CSA recognized
- High sensitivity and low power consumption
- High insulation
- Wide operating range
- DIL pitch terminals
- Plastic sealed type, RTIII
- Socket mounting type and socket available
- Compatible with solid state relays type SJ
- RoHS compliant.

Please see page 7 for more information



■ Part Numbers

[Example] JY - 12 H E - K P - UL
 (a) (b) (c) (d) (e) (f) (g)

| | | |
|-----|--------------------|---|
| (a) | Relay type | JY : JY series |
| (b) | Coil rated voltage | 12 : 4.5...48VDC |
| (c) | Contact style | Nil : 3A (single contact) H : 5A (single contact) |
| (d) | Coil material | Nil : Gold flash silver cadmium oxide (single contact type) E : Silver cadmium oxide (single contact type) |
| (e) | Enclosure | K : Plastic sealed type, RTIII |
| (f) | Terminal type | Nil : PC board mounting type P : Socket mounting type (without JY-W) |
| (g) | Safety approval | Nil : UL, CSA not approved type UL : UL, CSA approved type |

JY Series

■ Specifications

| Item | | | JY - () | JY - () E | JY - () H | JY - () HE | Remarks / conditions |
|---------------------|-----------------------------|-----------------------------------|---|----------------------|---------------------------------|----------------------|-------------------------------------|
| | | | 3A type | | 5A type | | |
| Contact data | Configuration | | 1a | | | | |
| | Construction | | Single | | | | |
| | Material | | Gold flash silver cadmium oxide | Silver cadmium oxide | Gold flash silver cadmium oxide | Silver cadmium oxide | |
| | Resistance | | Max. 30 mΩ | Max. 100 mΩ | Max. 30 mΩ | Max. 100 mΩ | Initial (at 6 VDC, 1A) |
| | Contact rating | | 3A, 250VAC / 30VDC | | 5A, 250VAC / 30VDC | | |
| | Max. carrying current | | 5A | | | | |
| | Max. switching voltage | | 250VAC / 150VDC | | | | |
| | Max. switching power | | 750VA, 90W | | 1,250VA, 150W | | |
| | Max. switching current | | 3A | | 5A (Socket 3A) | | |
| | Min. switching load * | | 10mA 5VDC | 100mA 5VDC | 10mA 5VDC | 100mA 5VDC | |
| Coil | Rated power consumption | | 200 mW (48V type: 360 mW) | | | | At 20°C |
| | Operate power consumption | | 100 mW (48V type: 170 mW) | | | | At 20°C |
| | Operating temperature range | | -40°C ~ +90°C (48V type: +80 °C) | | | | No frost |
| Timing data | Operate | | Max. 6 ms | | | | At nominal voltage (without bounce) |
| | Release | | Max. 3 ms | | | | At nominal voltage (without diode) |
| Life | Mechanical | | Min. 20 x 10 ⁶ operations | | | | |
| | Electrical | | Min. 100 x 10 ³ operations | | | | Contact rating |
| Insulation | Insulation resistance | | Min. 1,000MΩ at 500VDC | | | | Initial |
| | Dielectric strength | Open contacts | 750VAC, 1 minute | | | | |
| | | Coil contact | 2,000VAC, 1 minute | | | | |
| | Surge strength | Coil to contacts | 4,000V / 1.2 x 50μs standard wave | | | | |
| Other | Vibration resistance | Misoperation | 10 to 55 to 10Hz single amplitude 0.75 mm | | | | |
| | | Endurance | 10 to 55 to 10Hz single amplitude 0.75 mm | | | | |
| | Shock resistance | Misoperation | Min. 100m/s ² (11 ± 1ms) | | | | |
| | | Endurance | Min. 1,000m/s ² (6 ± 1ms) | | | | |
| Dimensions / weight | | 9.8 x 20.0 x 12.8 mm / approx. 5g | | | | | |
| Sealing | | Plastic sealed, RTIII | | | | | |

*: 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.

JY Series

■ Coil Data

| Coil code | Rated Coil Voltage (VDC) | Coil Resistance +/-10% (Ω) | Must Operate Voltage* (VDC) | Must Release Voltage* (VDC) | Rated Power (mW) |
|-----------|--------------------------|-------------------------------------|-----------------------------|-----------------------------|------------------|
| 4.5 | 4.5 | 100 | 3.1 | 0.23 | 200 |
| 5 | 5 | 125 | 3.5 | 0.25 | |
| 6 | 6 | 180 | 4.2 | 0.3 | |
| 9 | 9 | 405 | 6.3 | 0.45 | |
| 12 | 12 | 720 | 8.4 | 0.6 | |
| 18 | 18 | 1,620 | 12.6 | 0.9 | |
| 24 | 24 | 2,880 | 16.8 | 1.2 | |
| 48 | 48 | 6,400 | 32.6 | 2.4 | 360 |

Note: All values in the table are valid for 20degC and zero contact current unless otherwise specified.

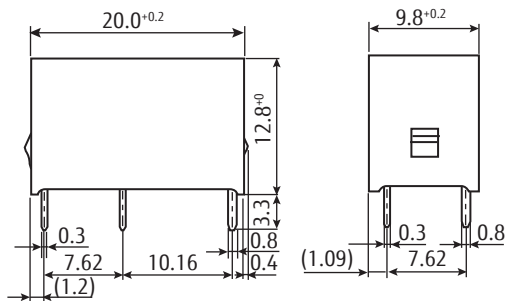
*: Specified operated values are valid for pulse wave voltage.

■ Safety Standards

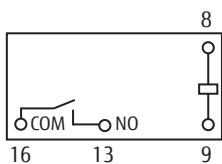
| Type | Compliance | Contact Rating |
|------|--------------------------|---|
| UL | UL 508 | Flammability: UL 94-V0 (plastics) [JY-H, JY-HE] 5A, 250 VAC / 30 VDC (resistive) 1/8 HP, 125VAC, 250 VAC Pilot duty code C150 |
| | E56140 | |
| CSA | C22.2 No. 14 LR 35579 | [JY, JY-E] 3A, 250 VAC / 30 VDC (resistive) 1/10 HP, 125VAC, 250 VAC Pilot duty: D150 |

■ Dimensions

- Dimensions

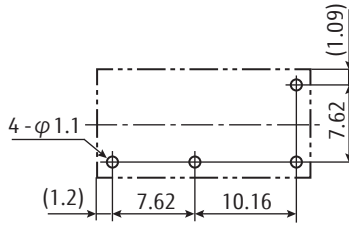


- Schematics
(BOTTOM VIEW)



JY Series

- PC Board Mounting Hole Layout (BOTTOM VIEW)

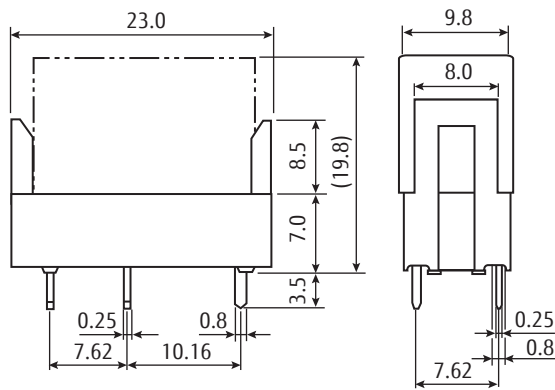


Tolerance of PC board mounting hole layout: ± 0.1 unless otherwise specified.

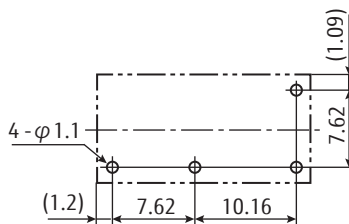
(): Reference value

Unit: mm

■ Socket Dimensions



- PC Board Mounting Hole Layout (BOTTOM VIEW)



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

(): Reference value

Unit: mm

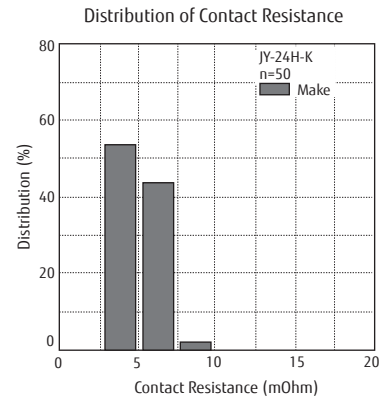
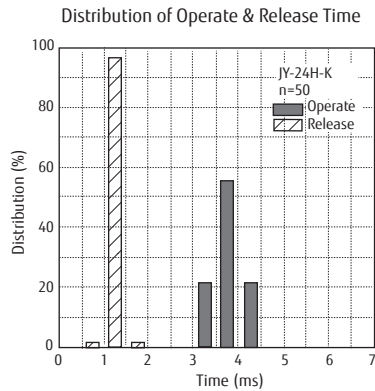
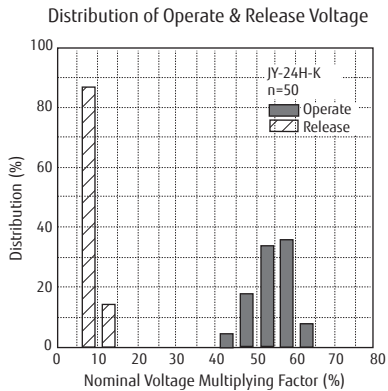
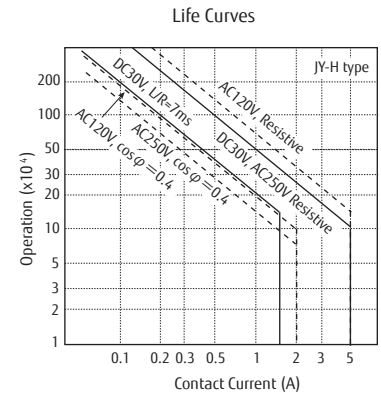
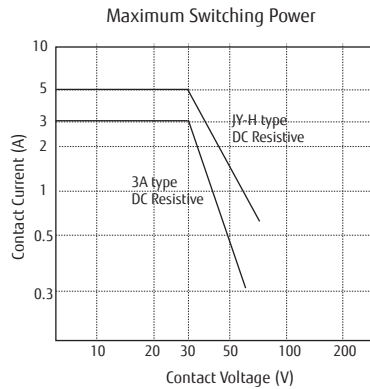
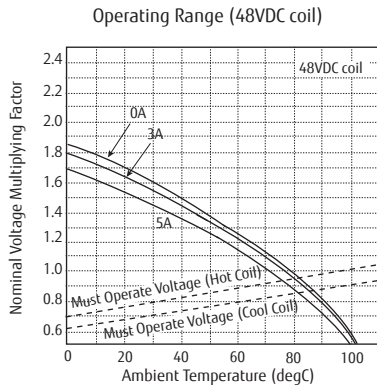
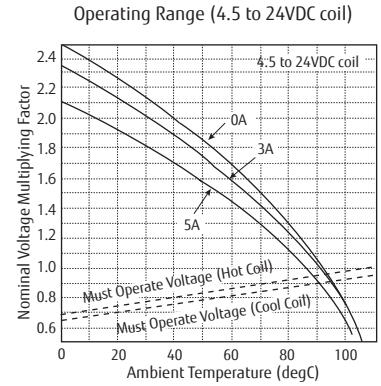
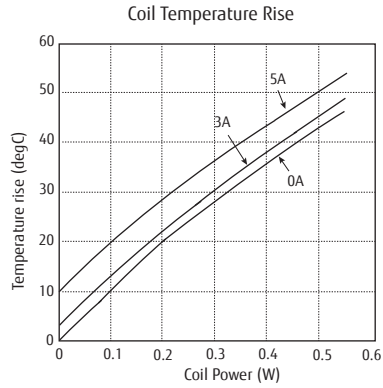
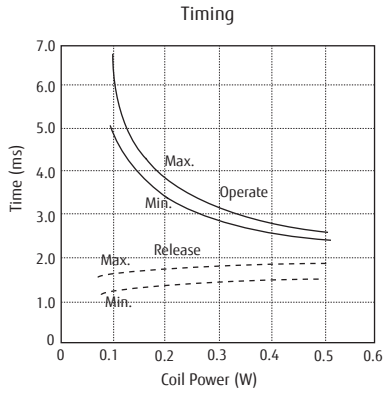
Note:

1: Socket ordering code: JK-4N

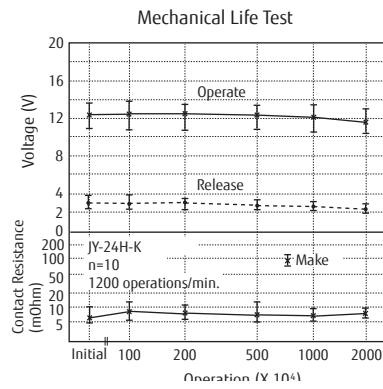
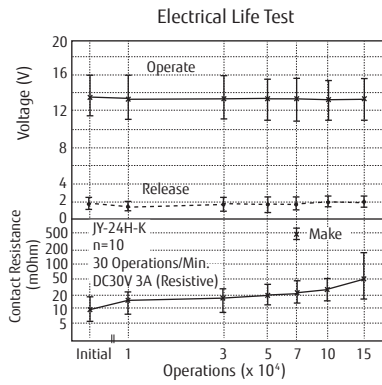
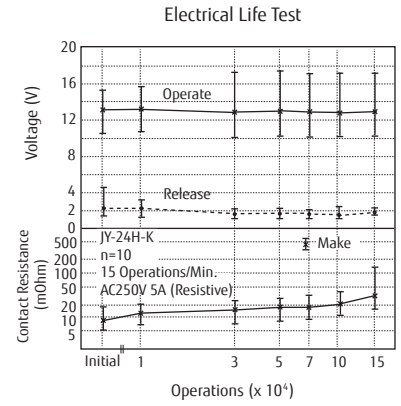
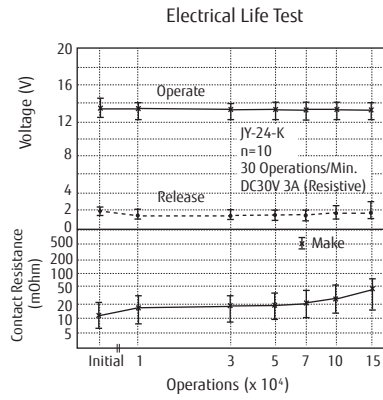
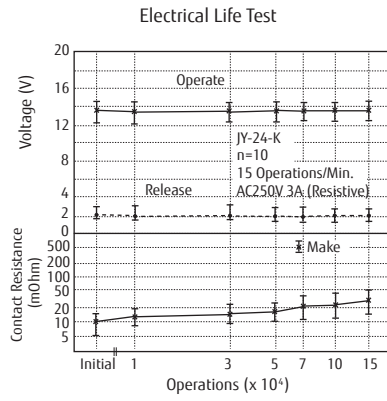
2: Standard IC socket is not recommended. Please use socket "JK-4N"

JY Series

■ Characteristic Data



JY Series



GENERAL INFORMATION

1. ROHS Compliance

- All relays produced by Fujitsu Components are compliant with RoHS directive 2011/65/EU including amendments.
- Use of Cadmium in electrical contacts is exempted as per Annex III of the RoHS directive 2001/65/EU. Please consider expiry date of exemption. Relays with Cadmium containing contacts are not to be used for new designs.
- All relays are lead-free. Please refer to Lead-Free Status Info for older date codes at: <http://www.fujitsu.com/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 for assembly: Sn-3.0Ag-0.5Cu.

Solder by Soldering Iron:

Soldering Iron 30-60W
Temperature: maximum 350-360 °C
Duration: maximum 3 sec.

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

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.