



SLIM TYPE POWER RELAY

JK-RELAYS



FEATURES

- Compact & Slim design: 11.0 mm (length) × 21.4 mm (width) × 15.7 mm (height) (.433×.843×.618 inch)
- High capacity type (8 A) available
- Surge resistance: Min. 8,000 V between contact and coil
- High sensitivity: 200 mW nominal operating power
- Sealed type available
- VDE, TÜV, SEMKO also approved

mm inch

SPECIFICATIONS

Contact

| Туре | | Standard type | High capacity type | | |
|--|--|-----------------------------|-----------------------------|--|--|
| Arrangement | | 1 Form A | | | |
| Initial contact resistance, max. (By voltage drop 6 V DC 1 A) | | 100 mΩ | | | |
| Contact material | | Silver alloy | | | |
| Rating (resistive load) | Nominal switching capacity | 3 A 30 V DC 3 A 125 V AC | 5 A 30 V DC 8 A 125 V AC | | |
| | Max. switching power | 90 W, 500 VA | 150 W, 1,250 V A | | |
| | Max. switching voltage | 250 V AC, 110 V DC (0.3 A | | | |
| | Max. switching current | 3 A | 8 A | | |
| Expected life (min. operations) | Mechanical (at 180 cpm) | 5×10 ⁶ | | | |
| | Electrical (at 20 cpm) (at rated load) | 10 ⁵ | | | |

Coil

| Nominal operating | Standard and high capacity type | 200 mW |
|-------------------|---------------------------------|-----------|
| power | Standard and high capacity type | 200 11100 |

Remarks

- Specifications will vary with foreign standards certification ratings. Measurement at same location as "Initial breakdown voltage" section
- *2 Detection current: 10 mA
- *3 Wave is standard shock voltage of $\pm 1.2 \times 50 \mu s$ according to JEC-212-1981
- *4 Excluding contact bounce time
- *5 Half-wave pulse of sine wave: 11ms; detection time: 10μs
- *6 Half-wave pulse of sine wave: 6ms
- *7 Detection time: 10μs
- *8 Refer to 5. Conditions for operation, transport and storage mentioned in AMBIENT ENVIRONMENT (Page 61).

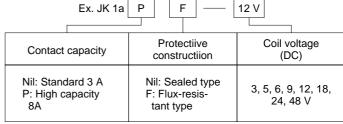
Characteristics

| Onaractoriotics | | | | | |
|---|---------------------------------|--------------------|--|---|--|
| Max. operating speed | | | 20 cpm | | |
| Initial insulat | Initial insulation resistance*1 | | | Min. 100 M Ω at 500 V DC | |
| Initial | Between open contacts | | ontacts | 750 Vrms for 1 min. | |
| breakdown voltage*2 | Between contact and coil | | and coil | 2,000 Vrms for 1 min. | |
| Surge voltage between contact and coil*3 | | | Min. 8,000 V | | |
| Operate time*4 (at nominal voltage) | | | Approx. 4 ms | | |
| Release time*4 (at nominal voltage) (without diode) | | | Approx. 2 ms | | |
| Temperature rise (ambient temperature: 70°C) | | | Max. 45°C with nominal coil voltage and at maximum allowable contact current | | |
| Shock resistance - | | Functional*5 | | Min. 98 m/s ² {10 G} | |
| | | Destructive*6 | | Min. 980 m/s ² {100 G} | |
| Vibration resistance | | Functional*7 | | 10 to 55 Hz at double amplitude of 1.6 mm | |
| | | Destructive | | 10 to 55 Hz at double amplitude of 2 mm | |
| Conditions for operation, transport and storage*8 (Not freezing and condensing at low temperature) | | Ambient | -40°C to +70°C | | |
| | | ina | temp. | -40°F to +158°F | |
| | | 9 | Humidity | 5 to 85% R.H. | |
| Unit weight | | Approx. 7 g .25 oz | | | |
| | | | | | |

TYPICAL APPLICATIONS

- Home appliances
- Microwave ovens, Air conditioners
- Office equipment
- Photocopiers, Facsimiles
- Industrial machines NC machines

ORDERING INFORMATION



Notes: 1. For TV-5 rated type, add sufix "-TV".

For detailed specifications, please consult us.

2. Standard packing: Carton: 100 pcs.; Case: 500 pcs.

UL/CSA, VDE approved type is standard.

TYPES

1. Standard type (3 A)

| 7 1 | · , | | | |
|---------------|-------------|---------------------|--|--|
| Coil voltage, | Part No. | | | |
| V DC | Sealed type | Flux-resistant type | | |
| 3 | JK1a-3V | JK1aF-3V | | |
| 5 | JK1a-5V | JK1aF-5V | | |
| 6 | JK1a-6V | JK1aF-6V | | |
| 9 | JK1a-9V | JK1aF-9V | | |
| 12 | JK1a-12V | JK1aF-12V | | |
| 18 | JK1a-18V | JK1aF-18V | | |
| 24 | JK1a-24V | JK1aF-24V | | |
| 48 | JK1a-48V | JK1aF-48V | | |
| | | | | |

2. High capacity type (8 A)

| Coil voltage, | Part No. | | | |
|---------------|-------------|---------------------|--|--|
| V DC | Sealed type | Flux-resistant type | | |
| 3 | JK1aP-3V | JK1aPF-3V | | |
| 5 | JK1aP-5V | JK1aPF-5V | | |
| 6 | JK1aP-6V | JK1aPF-6V | | |
| 9 | JK1aP-9V | JK1aPF-9V | | |
| 12 | JK1aP-12V | JK1aPF-12V | | |
| 18 | JK1aP-18V | JK1aPF-18V | | |
| 24 | JK1aP-24V | JK1aPF-24V | | |
| 48 | JK1aP-48V | JK1aPF-48V | | |

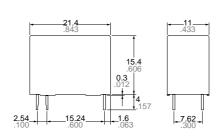
COIL DATA (at 20°C 68°F)

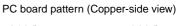
| Nominal voltage, V DC | Pick-up voltage V DC (max.) | Drop-out voltage, V DC (min.) | Coil resistance Ω (±10%) | Nominal operating current, mA (±10%) | Nominal operating power, mW | Max. allowable voltage at 70°C, V DC |
|--------------------------|--------------------------------|----------------------------------|-----------------------------|--------------------------------------|-----------------------------|--------------------------------------|
| 3 | 2.4 | 0.15 | 45 | 67 | 200 | 3.9 |
| 5 | 4.0 | 0.25 | 125 | 40 | 200 | 6.5 |
| 6 | 4.8 | 0.3 | 180 | 33 | 200 | 7.8 |
| 9 | 7.2 | 0.45 | 405 | 22 | 200 | 11.7 |
| 12 | 9.6 | 0.6 | 720 | 17 | 200 | 15.6 |
| 18 | 14.4 | 0.9 | 1,620 | 11 | 200 | 23.4 |
| 24 | 19.2 | 1.2 | 2,880 | 8.3 | 200 | 31.2 |
| 48 | 38.4 | 2.4 | 11,520 | 4.2 | 200 | 62.4 |

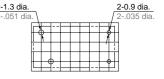
DIMENSIONS

mm inch









Tolerance: ±0.1 ±.004



Dimension: Max. 1mm .039 inch 1 to 5mm .039 to .197 inch $\pm 0.3 \pm .012$

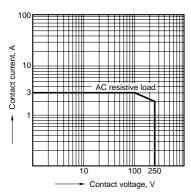
Min. 5mm .197 inch

General tolerance ±0.2 ±.008

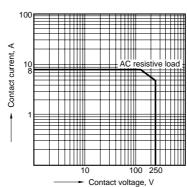
±0.4 ±.016

REFERENCE DATA

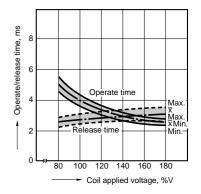
1-(1). Maximum value for switching capacity (Standard type)



1-(2). Maximum value for switching capacity (High capacity type)

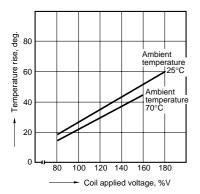


2. Operate/release time

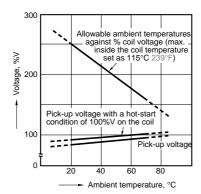


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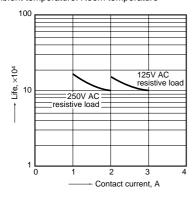
3. Coil temperature rise (High capacity type) Measured portion: Inside the coil Contact current: 8 A



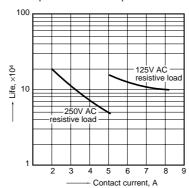
4. Ambient temperature characteristics (High capacity type)
Contact current: 8 A



5.-(1) Life curve (Standard type)
Operation frequency: 20 times/min.
(ON/OFF = 1.5s:1.5s)
Ambient temperature: Room temperature



5.-(2) Life curve (High capacity type) Operation frequency: 20 times/min. (ON/OFF = 1.5s:1.5s) Ambient temperature: Room temperature



For Cautions for Use, see Relay Technical Information (Page 48 to 76).