



RJ Series Relays

Features

- Compact size:
Blade: 12.7 x 27 x 28.8 mm
PCB: 12.7 x 25.5 x 28.8 mm
- Contact rating:
Blade: 8A (DPDT), 12A (SPDT)
PCB: 8A (DPDT & DPST-NO), 12A (SPDT & SPST-NO),
16A (SPDT & SPST-NO)
- Operational life:
200K cycles at full resistive AC load;
50 million cycles, no load
- Blade model has optional green, non-polarized LED
- RoHS compliant



Specifications

| | | Blade Models | | PCB Models | | | |
|---------------------------|-----------------------------------|-------------------------------------|----------------------------------|--------------------------------|------------------------------------|--|--|
| | | RJ1S | RJ2S | RJ1V | RJ1V (High Capacity) | RJ2V | |
| General Information | No. of poles | 1 | 2 | 1 | 1 | 2 | |
| | Contact Configuration | SPDT | DPDT | SPDT, SPST-NO | | DPDT, DPST-NO | |
| | Contact Rating | 12A | 8A | 12A | 16A | 8A | |
| | Contact Material | AgNi | | AgNi | AgSnIn | AgNi | |
| | Enclosure Ratings | - | | Flux protection | | | |
| | Contact Resistance | 50 milliohms max | | | 50 milliohms max ^{Note 1} | | |
| | Operating Time | 15ms max | | | 15ms max ^{Note 2} | | |
| | Release Time | 10ms max | | | 10ms max ^{Note 2} | | |
| | Dielectric Strength | Between contact & coil | 5,000V AC, 1 minute | | | 5,000V AC, 1 minute | |
| | | Between contacts of same poles | 1,000V AC, 1 minute | | | 1,000V AC, 1 minute | |
| | | Between contacts of different poles | - | 3,000V AC, 1 min. | - | 3,000V AC, 1 min. | |
| | Vibration Resistance | Damage limits | 10-55Hz, amplitude 0.75mm | | | 10-55Hz, amplitude 0.75mm | |
| | | Operating extremes | 10-55Hz, amplitude 0.75mm | | | 10-55Hz, amplitude 0.75mm | |
| | Shock Resistance | Damage limits | 100m/s ² min (10G) | | | NO contact: 200m/s ² (20G) NC contact: 100m/s ² (10G) | |
| | | Operating extremes | 1,000m/s ² min (100G) | | | 1,000m/s ² min (100G) | |
| | Mechanical Life | AC | 30,000,000 operations | | | 30,000,000 operations | |
| | | DC | 50,000,000 operations | | | 50,000,000 operations | |
| | Electrical Life @ Full Rated Load | AC | 200,000 operations | | | 200,000 operations | |
| | | DC | 100,000 operations | | | 100,000 operations | |
| Operating Temperature | -40 to 70° C | | | -40 to 70° C ^{Note 3} | | | |
| Operating Humidity | 5 to 85% RH | | | 5 to 85% RH | | | |
| Dimensions (H x W x D mm) | 12.7 x 27 x 28.8 | | | 12.7 x 25.5 x 28.8 | | | |
| Weight (Approx.) | 19g | | SPDT: 17g, SPST-NO: 16g | | DPDT: 17g, DPST-NO: 16g | | |

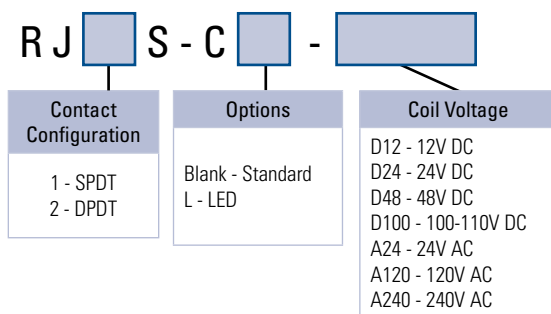


Notes:

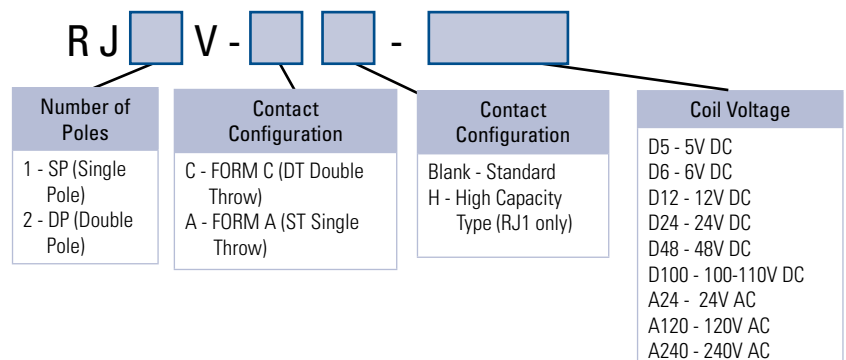
1. Measured using 5V DC, 1A voltage drop method.
2. Measured at the rated voltage (at 20°C), excluding contact bounce time.
3. 100% rated voltage.

Ordering Information

Blade Models



PCB Models



Contact Ratings

| Contact Ratings | Type | Contact | Allowable Contact Power | | Rated Load | | | Allowable Switching Current | Allowable Switching Voltage | Minimum Applicable Load | | | | |
|-----------------|---------|--------------------|-------------------------|----------------|------------|----------------|---|-----------------------------|-----------------------------|-------------------------|---------------|-----|------------------|---------------|
| | | | Resistive Load | Inductive Load | Voltage | Resistive Load | Inductive Load cos _φ =0.3 L/R=7ms | | | | | | | |
| | | | | | | | | | | | | | | |
| Blade Models | 1 pole | NO | AC3000V | AC1875VA | 250V AC | 12A | 7.5A | 6A | AC250V DC30V | DC5V 100mA | | | | |
| | | NC | AC3000V | AC1875VA | 250V AC | 12A | 7.5A | 6A/3A | | | | | | |
| | 2 poles | NO | AC2000V | AC1000VA | 250V AC | 8A | 4A | 4A | AC250V DC30V | DC5V 100mA | | | | |
| | | NC | AC2000V | AC1000VA | 250V AC | 8A | 4A | 4A/2A | | | | | | |
| PCB Models | 1 pole | Standard Type | NO | AC3000V | AC1875VA | AC250V | 12A | 7.5A | 12A | AC250V DC125V | DC5V 100mA | | | |
| | | | DC360W | DC180W | DC30V | 12A | 6A | | | | | | | |
| | | | NC | AC3000V | AC1875VA | AC250V | 12A | 7.5A | | | | | | |
| | | DC180W | DC90W | DC30V | 6A | 3A | | | | | | | | |
| | | High Capacity Type | NO | AC4000V | AC2000VA | AC250V | 16A | 8A | | | | 16A | AC250V DC125V | DC5V 100mA |
| | | | DC480W | DC240W | DC30V | 16A | 8A | | | | | | | |
| | NC | | AC4000V | AC2000VA | AC250V | 16A | 8A | | | | | | | |
| | DC240W | DC120W | DC30V | 8A | 4A | | | | | | | | | |
| | 2 poles | NO | AC2000V | AC1000VA | AC250V | 8A | 4A | 8A | AC250V DC125V | DC5V 10mA | | | | |
| | | | DC240W | DC120W | DC30V | 8A | 4A | | | | | | | |
| | | | NC | AC2000V | AC1000VA | AC250V | 8A | | | | 4A | | | |
| | | DC240W | DC120W | DC30V | 8A | 4A | | | | | | | | |
| NC | | AC2000V | AC1000VA | AC250V | 8A | 4A | | | | | | | | |
| | | DC240W | DC120W | DC30V | 8A | 4A | | | | | | | | |
| | DC120W | DC60W | DC30V | 4A | 2A | | | | | | | | | |

Coil Ratings

| Coil Ratings | Rated Voltage | Coil Voltage Code | Rated Current (mA) ±15% (at 20°C) | | | | Coil Resistance (ohms)±10% (at 20°C) | Operating Characteristics ² | | | Power Consumption | |
|--------------|--------------------|-------------------|--------------------------------------|-----------|-----------------------|-----------|--|--|-----------------|--|-------------------|--------------|
| | | | Without LED ¹ | | With LED ¹ | | | Minimum Pickup Voltage | Dropout Voltage | Maximum Allowable Voltage ³ | | |
| | | | 50Hz | 60Hz | 50Hz | 60Hz | | | | | | |
| AC | Blade & PCB Models | 24V | A24 | 43.9 | 37.5 | 47.5 | 41.1 | 243 | 80% max | 30% min | 140% | 0.9VA (60Hz) |
| | 120V | A120 | 8.8 | 7.5 | 8.7 | 7.4 | 6,400 | | | | | |
| | 240V | A240 | 4.3 | 3.7 | 4.3 | 3.7 | 25,570 | | | | | |
| DC | Blade Models | 12V | D12 | 44.2 | | 48.0 | | 271 | 70% max | 10% min | 170% | 0.53W |
| | | 24V | D24 | 22.1 | | 25.7 | | 1,080 | | | | |
| | | 48V | D48 | 11.0 | | 10.7 | | 4,340 | | | | |
| | | 100-110V | D100 | 5.3 - 5.8 | | 5.2 - 5.7 | | 18,870 | | | | |
| | PCB Models | 5V | D5 | 106 | | - | | 47.2 | 70% max | 10% min | 170% | 0.53-0.64W |
| | | 6V | D6 | 88.3 | | - | | 67.9 | | | | |
| | | 12V | D12 | 44.2 | | - | | 271 | | | | |
| | | 24V | D24 | 22.1 | | - | | 1,080 | | | | |
| | | 48V | D48 | 11.0 | | - | | 4,340 | | | | |
| | | 100-110V | D100 | 5.3 - 5.8 | | - | | 18,870 | | | | |

Notes:

- LED Indicator is only available on Blade relays.
- Operating characteristics are against rated values at 20°C.
- The maximum allowable voltage is the maximum value which can be applied to the relay coils.

Accessories

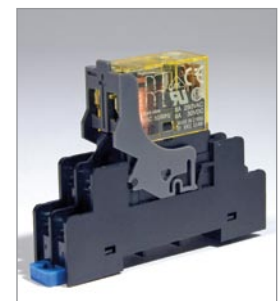
Socket Part Numbers

| | Relay Type | Socket Type | Socket Part Number |
|--------------------|---------------------|---------------------|--------------------|
| Blade Models | RJ1S (Std) | DIN Rail Standard | SJ1S-05B |
| | | DIN Rail Fingersafe | SJ1S-07L |
| | PCB Mount | SJ1S-61 | |
| | | DIN Rail Standard | SJ2S-05B |
| RJ1S-□H (HC), RJ2S | DIN Rail Fingersafe | SJ2S-07L | |
| | PCB Mount | SJ2S-61 | |
| | DIN Rail Fingersafe | SQ1V-07B* | |
| PCB Models | RJ1V (Std) | PCB Mount | SQ1V-63 |
| | | DIN Rail Fingersafe | SQ2V-07B* |
| | RJ1V-□H (HC), RJ2V | PCB Mount | SQ2V-63 |

*Hold-down clip or spring must be removed to use with RJ relays.

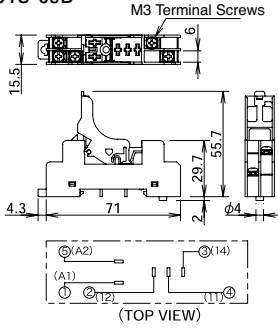
Socket Specifications

| | SJ1S | SJ2S |
|------------------------------|---------------------------|------|
| Rated Insulation Voltage | 250V AC/DC | |
| Applicable Wire | Max up to 2 - #14 AWG | |
| Applicable Crimping Terminal | 2mm ² x 2 | |
| Screw Size | M3 Slotted-Phillips screw | |
| Weight | 30g | 34g |

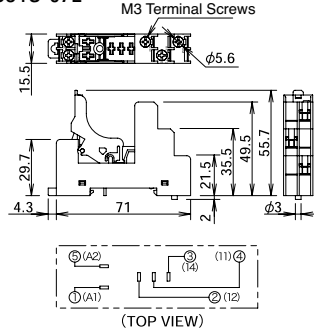


Socket Dimensions - for Blade Relays (mm)

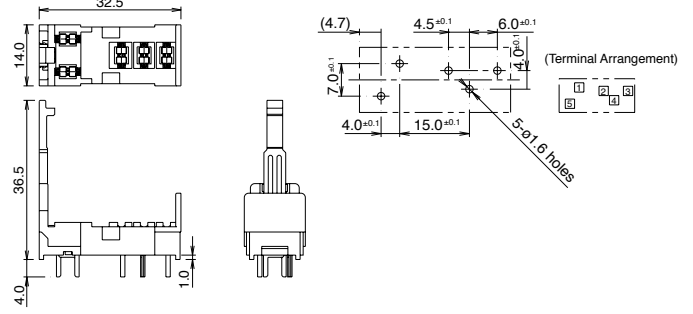
SJ1S-05B



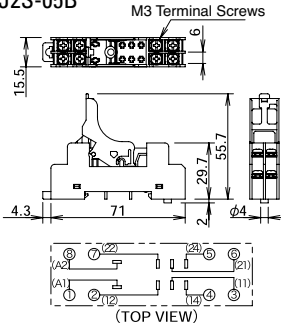
SJ1S-07L



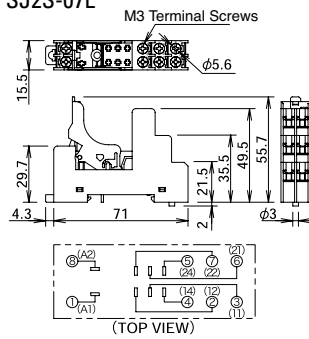
SJ1S-61



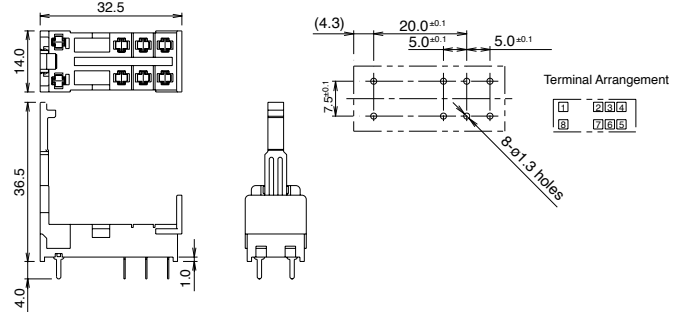
SJ2S-05B



SJ2S-07L

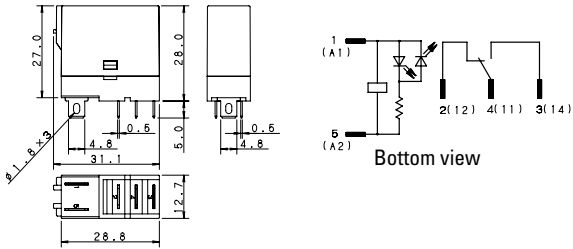


SJ1S-61

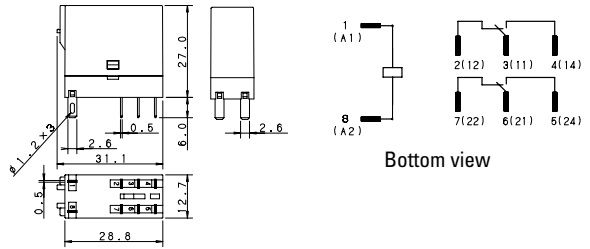


Blade Relay Dimensions (mm)

RJ1S

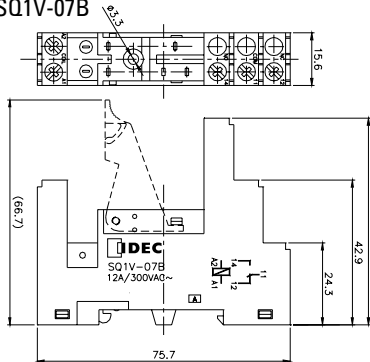


RJ2S

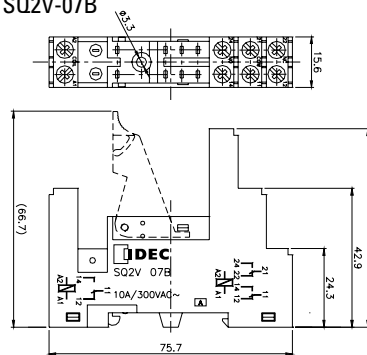


SQ Socket Dimensions - for PCB Relays (mm)

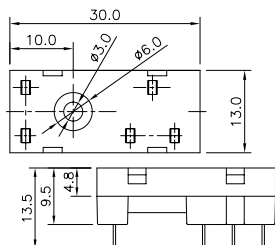
SQ1V-07B



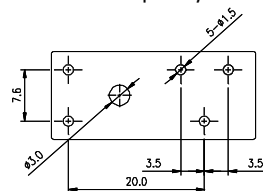
SQ2V-07B



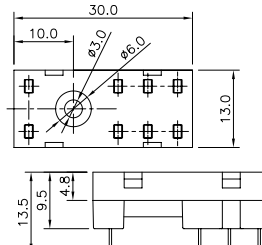
SQ1V-63



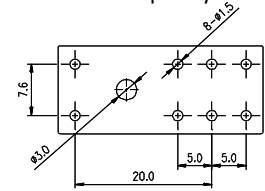
SQ1V-63 PCB pin layout



SQ2V-63



SQ2V-63 PCB pin layout

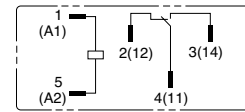
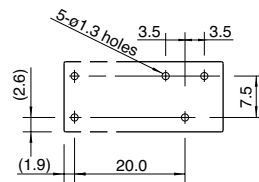
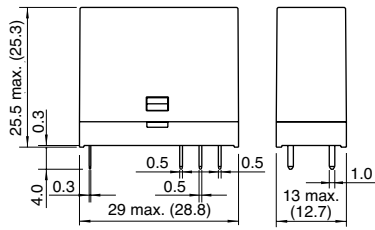


PCB Relay Dimensions (mm)

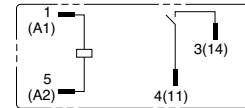
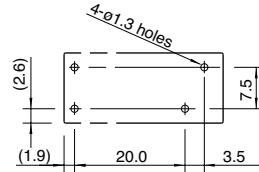
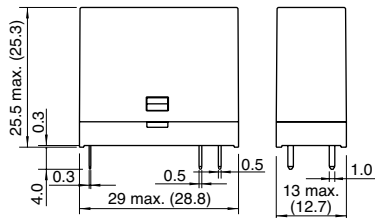
**PCB Mounting Hole Layout
(Bottom View)**

**PCB Internal Circuit Diagrams
(Bottom View)**

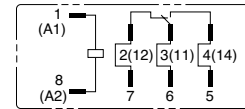
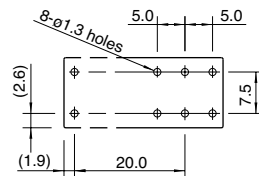
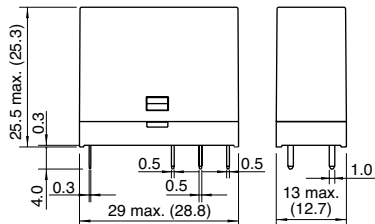
RJ1V-C-*
SPDT



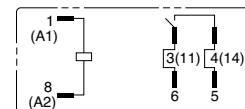
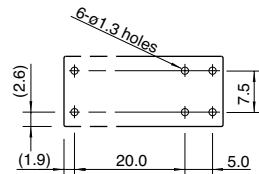
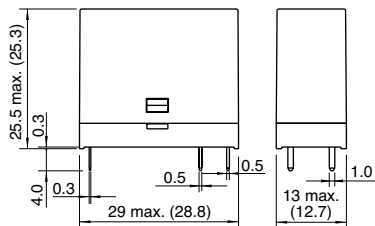
RJ1V-A-*
SPST-NO



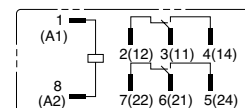
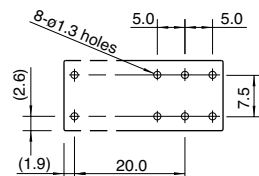
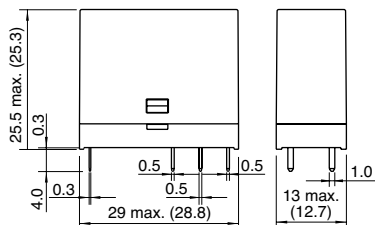
RJ1V-CH-*
SPDT
High Capacity



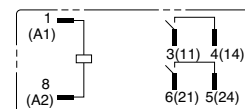
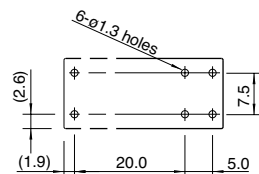
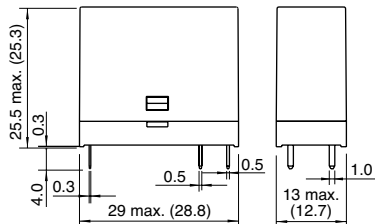
RJ1V-AH-*
SPST-NO
High Capacity



RJ2V-C-*
DPDT



RJ1V-A-*
DPST-NO



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