

Miniature Power Relay

SJ-16A Series

Features

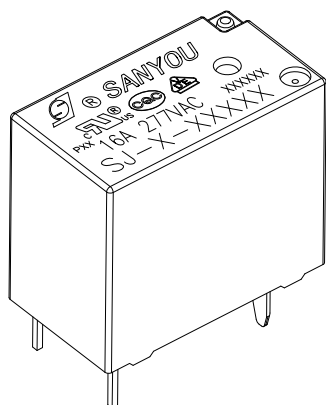
- 16A switching capability
- Impulse withstand voltage(between coil and contact) : 10,000V
- Product in accordance to IEC60335-1 GWFI 850°C/GWIT 775°C and CTI≥250V is available.
- Product in accordance to 750°C is available.
- Dimensions: 18.2mm×15.5mm×10.2mm

Safety Approval

UL、CU-L File No.:E190598

VDE File No.:

CQC File No.:CQC02001002114、CQC09002030583、CQC11002064518



Contact Capacity

| Type | SJ-EMS/(0.4W) | SJ-LMS/(0.2W) |
|-----------------------|---------------|---------------|
| Rated load | 16A 277VAC | 16A 277VAC |
| Max.switching current | 16A | 16A |
| Max.switching voltage | 277VAC | 277VAC |
| Max.switching power | 4,432 VAC | 4,432 VAC |
| Min.switching load | 6V 1A | |

Characteristic Date

| | | |
|-----------------------|---|---|
| Contact material | Silver alloy | |
| Contact resistance | 100mΩ Max.(at 1A 24VDC) | |
| Operate time | 10msec. Max. (no diode) | |
| Release time | 5msec. Max. (no diode) | |
| Insulation resistance | 1,000MΩ Min.(DC500V) | |
| Dielectric strength | Between open contacts: AC1,000V(0.4w), AC900V(0.2w) 50/60Hz 1min. | |
| | Between coil and contact:AC4,000V,50/60Hz 1min. | |
| Vibration resistance | Destructive | 10 ~ 55Hz, at double amplitude of 1.5mm |
| | Functional | 10 ~ 55Hz, at double amplitude of 1.5mm |
| Shock resistance | Destructive | 100G Min. |
| | Functional | 10G Min. |
| Endurance(Operations) | Mechanical edurance(10,800ops/h) | 10,000,000cycles(at room temperature) |
| | ⁽²⁾ Electrical endurance(360ops/h) | 50,000cycles(at room temperature) |
| Ambient temperature | -40°C ~ +85°C(no condensation) | |
| Humidity | 5% ~ 85%RH | |
| Unit weight | Approx. 5.7g | |

(1) The date shown above are initial values.

(2) Only typical loads are listed above. Other load specifications can be available upon request.

(3) The electrical endurance test has been carried out on flux proofed version.

Coil Data(at 20°C)

| Nominal voltage (VDC) | Nominal operating current±10% (mA) | Coil resistance±10% (Ω) | Max allowable voltage (VDC) | Pick-up voltage(Max.) | Drop-out voltage(Min.) | Coil power |
|-----------------------|------------------------------------|-------------------------|-----------------------------|------------------------|------------------------|------------|
| 3 | 133.33 | 22.5 | 150% of Nominal Voltage | 75% of Nominal Voltage | 5% of Nominal Voltage | 0.4W |
| 5 | 80.00 | 62.5 | | | | |
| 6 | 66.66 | 90 | | | | |
| 9 | 44.44 | 202.5 | | | | |
| 12 | 33.33 | 360 | | | | |
| 18 | 22.22 | 810 | | | | |
| 24 | 16.66 | 1440 | | | | |
| 3 | 66.66 | 45 | 150% of Nominal Voltage | 80% of Nominal Voltage | 5% of Nominal Voltage | 0.2W |
| 5 | 40.00 | 125 | | | | |
| 6 | 33.33 | 180 | | | | |
| 9 | 22.22 | 405 | | | | |
| 12 | 16.66 | 720 | | | | |
| 18 | 11.11 | 1620 | | | | |
| 24 | 8.33 | 2880 | | | | |

(1) The data shown above are initial values. Do not energize the maximum allowable voltage of the coil for more than 10 minutes to avoid overheating of the coil.

Safety Approval Ratings (Note: Please refer to the certificates for more detailed information of the ratings)

| Approval | CQC | VDE | UL/CUL |
|------------------|--|--------------------|--------------------|
| File No. | CQC02001002114 CQC09002030583 CQC11002064518 | | E190598 |
| Approved Ratings | 16A 125/250/277VAC | 16A 125/250/277VAC | 16A 125/250/277VAC |

(1) All values unspecified are at room temperature.

(2) Only typical loads are listed above. Other load specifications can be available upon request. The electrical endurance cycles of each load is different due to the different test conditions. If more details are required, please contact us.

(3) The electrical endurance test has been carried out on flux proofed version.

Ordering Information

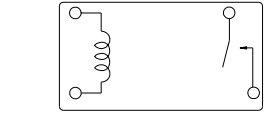
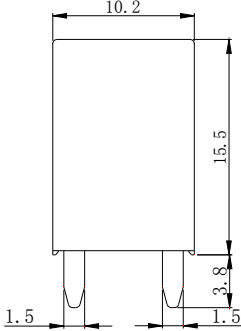
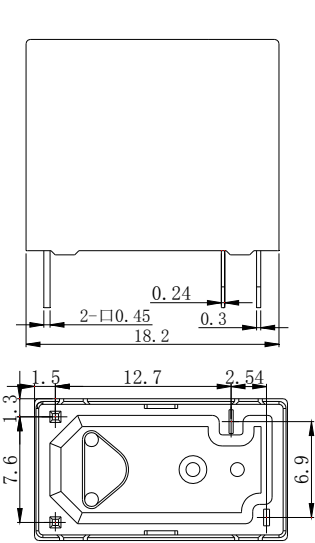
| | | | | | | | | | |
|--|-----------|-----------|-----------|----------|----------|----------|----------|-----------|---|
| SJ | -S | -1 | 12 | E | M | S | 3 | -F | -XX Special code : Nil-Standard , Letter or number-Special requirement |
| Insulation class : Nil-ClassF | | | | | | | | | |
| Contact material : Nil-AgSnO ₂ , 3-AgNi&AgSnO ₂ | | | | | | | | | |
| Contact capacity : S-16A | | | | | | | | | |
| Contact form : M-FormA | | | | | | | | | |
| Coil power : L-0.2W, E-0.4W | | | | | | | | | |
| Rated coil voltage(VDC) : 03 , 05 , 06 , 09 , 12 , 18 , 24 | | | | | | | | | |
| Number of poles : 1-1Pole | | | | | | | | | |
| Protective construction : S-Flux proofed , SH-Sealed type washable | | | | | | | | | |
| Basic series : SJ | | | | | | | | | |

(1) Flux-proofed relays can not be used in the environment with pollutants like H₂S, SO₂, NO₂, dust, etc.

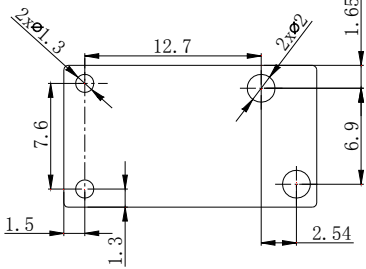
(2) Water cleaning or surface process is not suggested after the flux-proofed relays are assembled on PCB.

(3) The customer special requirement express as special code after evaluating by Sanyou.

Outline Dimensions,Wiring Diagram,P.C.Board Layout (unit:mm)



Wiring Diagram(bottom view)



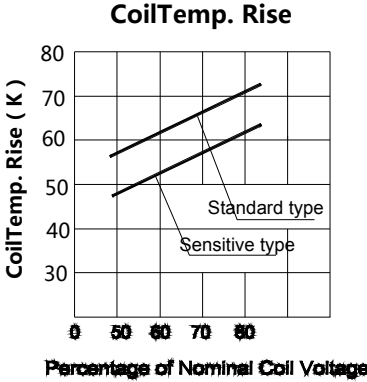
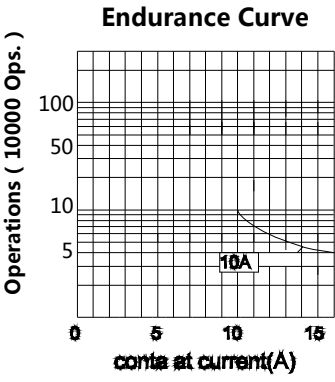
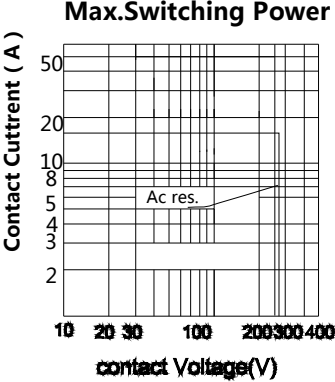
PCB Layout(Bottom view)

Unless otherwise specified:
 If dimension < 1mm, tolerance:0.2mm;
 If dimension 1-5mm, tolerance:0.3mm ;
 If dimension > 5mm, tolerance:0.4mm.
 Note: 1. Extended terminal dimension is dimension before soldering.
 2. Tolerance of P. C. B. layout 0.1 mm

Typical Applications

- Home appliances
- Office Equipment
- Audio equipment
- Automobile
- Air conditioner

Characteristic curves

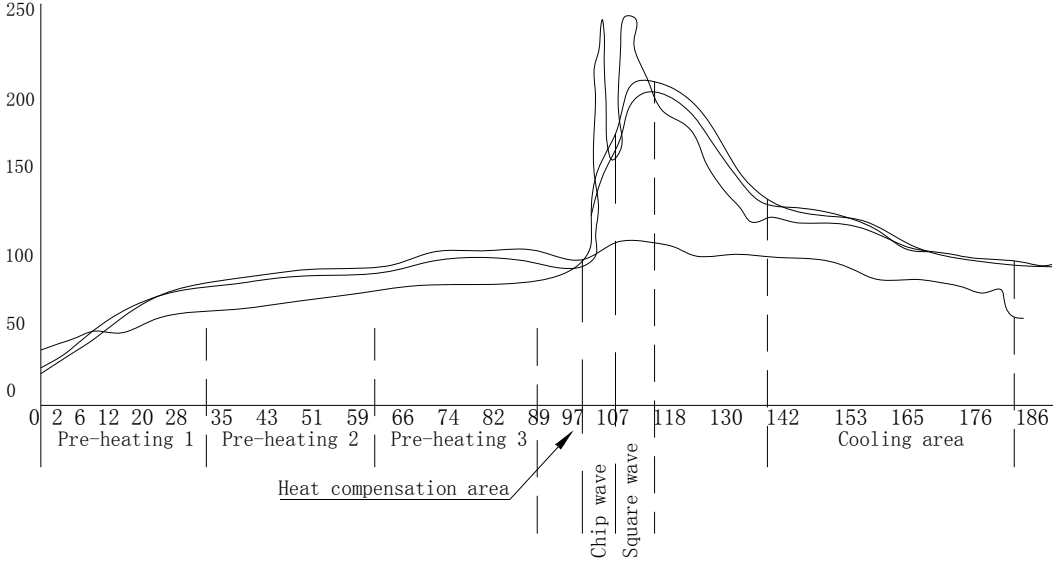


Soldering

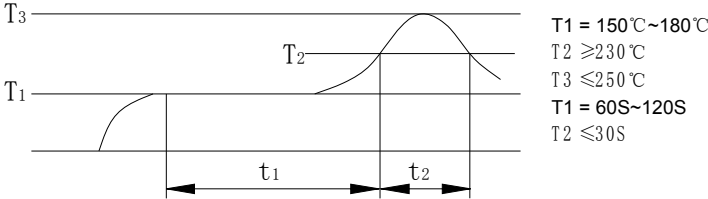
(1) Wave soldering conditions

Please obey the following conditions when soldering automatically. Pre-heating: within 150 °C(solder surface terminal portion)and within 150 seconds.

Wave soldering temperature distribution chat



The recommended soldering temperature range and duration is 240°C to 260°C, 3s to 5s;Furthermore, because the type of PC board used and other factors may influence the relays, test that the relays function properly on the actual PC board on which they are mounted.



(2) Reflow soldering conditions (Pin-in- Paste process)

Rise in relay temperature depends greatly on the component mix on a given PC board and the heating method of the reflow

equipment. Therefore, please test beforehand using actual equipment to ensure that the temperature where the relay terminals are soldered and the temperature at the top of the relay case are within the conditions given above.

Disclaimer :

The specification is for reference only. Specifications subject to change without notice.

We could not evaluate all the performance and all the parameters for every possible application. Thus the user should be in a right position to choose the suitable product for their own application. If there is any query, please contact Sanyou for the technical service. However, it is the user’s responsibility to determine which product should be used only.