# W35L

## Latching Relay

### Features

- 2 sets of 20A switching capability
- Single coil and double coils are all available
- Products with operating temperature of 105℃ are available
- The height of the product is 10mm,it is suit for flat mounting
- Breakdown voltage (between contact and coil):4KV
- The contact can withstand 750A 10ms short-circuit impulse current
- UL insulation system:Class F
- Environment-friendly product (RoHS compliant)
- Outline Dimensions:(30.0×20.0×10.0)mm
- Main application:Smart home、Smart Socket


TV-8

## ■ CHARACTERISTICS

| Specifications | Item | | |
|---|---|---|---|
| Contact Data | Contact arrangement | | 2A、2B、1A1B |
| | Contact resistance(initial) | | ≤50mΩ(6VDC 1A) |
| | Contact material | | $AgSnO_2$ |
| Rated value | Rated load(Resistance load) | | 16A 250VAC(Standard)<br>20A 250VAC |
| | Max.switching voltage | | 277VAC |
| | Max.switching current | | 20A |
| | Max.switching capacity | | 4000VA |
| | Min.allowing load | | 5VDC 100mA |
| Electrical performance | Insulation resistance(initial) | | 1000MΩ(500VDC) |
| | Dielectric strength (initial) | Between open contacts | 1000VAC,1min |
| | | Between contact sets | 2000VAC,1min |
| | | Between coil&contacts | 4000VAC,1min |
| | Set time | | ≤15ms |
| | Reset time | | ≤15ms |
| Mechanical performance | Shock resistance | Functional | 98m/s²(10g) |
| | | Destructive | 980m/s²(100g) |
| | Vibration resistance | | 10Hz~55Hz 1.5mm DA |
| Endurance | Mechanical | | $1\times10^6$ ops |
| | Electrical(Room temperature) | | 16A 250VAC $1\times10^5$ops (ON/OFF=1s/9s)<br>20A 250VAC $5\times10^4$ops (ON/OFF=1s/9s)<br>1.5HP 250VAC(motor) $5\times10^4$ops (ON/OFF=1s/9s) |
| Operate condition | Ambient temperature | | -40℃~85℃/105℃ |
| | Humidity | | 5% to 85% |
| Termination | | | PCB |
| Unit weight | | | Approx.12g |
| Construction | | | Flux proofed |

## ■ COIL DATA(23℃)

■ Single coil latching

| Nominal Voltage | Set Voltage VDC | Reset Voltage VDC | Rated Current (±10%) | Coil Resistance (±10%) | Nominal Power | Max Voltage |
|---|---|---|---|---|---|---|
| DC 5V | ≤3.75 | ≤3.75 | 200mA | 25Ω | 1W | DC 7.5V |
| DC 6V | ≤4.50 | ≤4.50 | 166.7mA | 36Ω | | DC 9V |
| DC 9V | ≤6.75 | ≤6.75 | 111.1mA | 81Ω | | DC 13.5V |
| DC 12V | ≤9.00 | ≤9.00 | 83.3mA | 144Ω | | DC 18V |
| DC 24V | ≤18.00 | ≤18.00 | 41.7mA | 576Ω | | DC 36V |

■ Double coils latching

| Nominal Voltage | Set Voltage VDC | Reset Voltage VDC | Rated Current (±10%) | Coil Resistance (±10%) | Nominal Power | Max Voltage |
|---|---|---|---|---|---|---|
| DC 5V | ≤3.75 | ≤3.75 | 400/400mA | 12.5/12.5Ω | 2W | DC 7.5V |
| DC 6V | ≤4.50 | ≤4.50 | 333.4//333.4mA | 18/18Ω | | DC 9V |
| DC 9V | ≤6.75 | ≤6.75 | 222.2/222.2mA | 40.5/40.5Ω | | DC 13.5V |
| DC 12V | ≤9.00 | ≤9.00 | 166.6/166.6mA | 72/72Ω | | DC 18V |
| DC 24V | ≤18.00 | ≤18.00 | 83.4/83.4mA | 288/288Ω | | DC 36V |

## ■ ORDERING INFORMATION

**W35L -2A T -L1 R -XXX DC12V**

① Type

② Contact arrangement:2A=2 open contacts, 2B=2 close contacts
1A1B=1 open contacts+1 close contacts

③ Contact material:T=$AgSnO_2$

④ Coil type:L1=1 coil latching, L2=2 coils latching

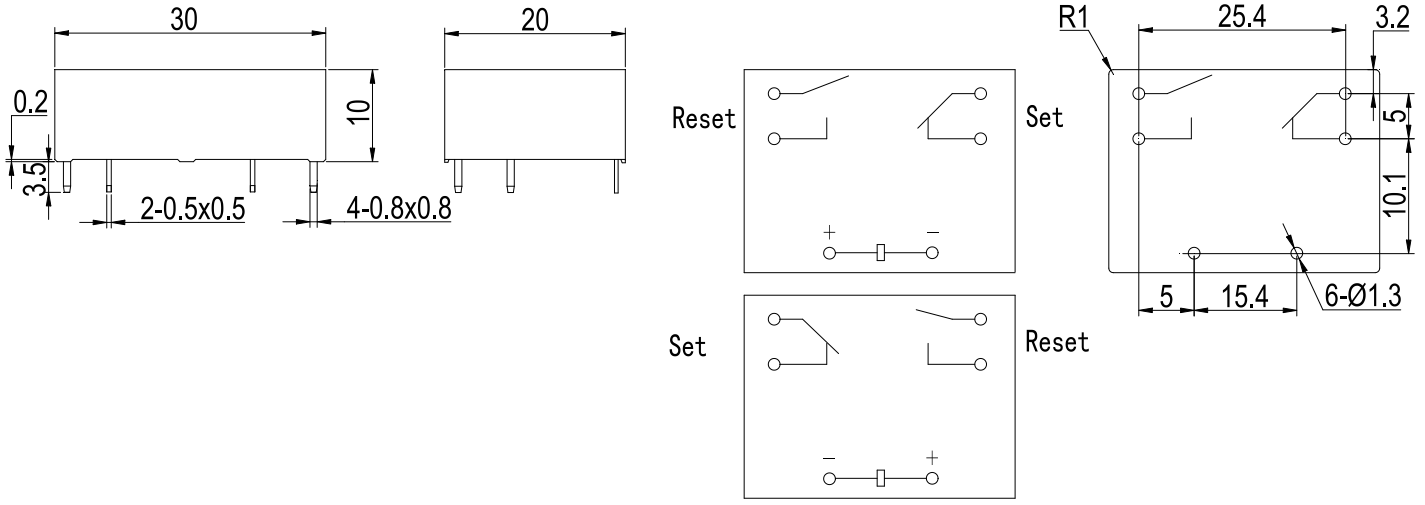
⑤ Operation polarity:Nil=standard polarity R=reversed polarity

⑥ Customer special code:numbers or letters denote customer's requirements

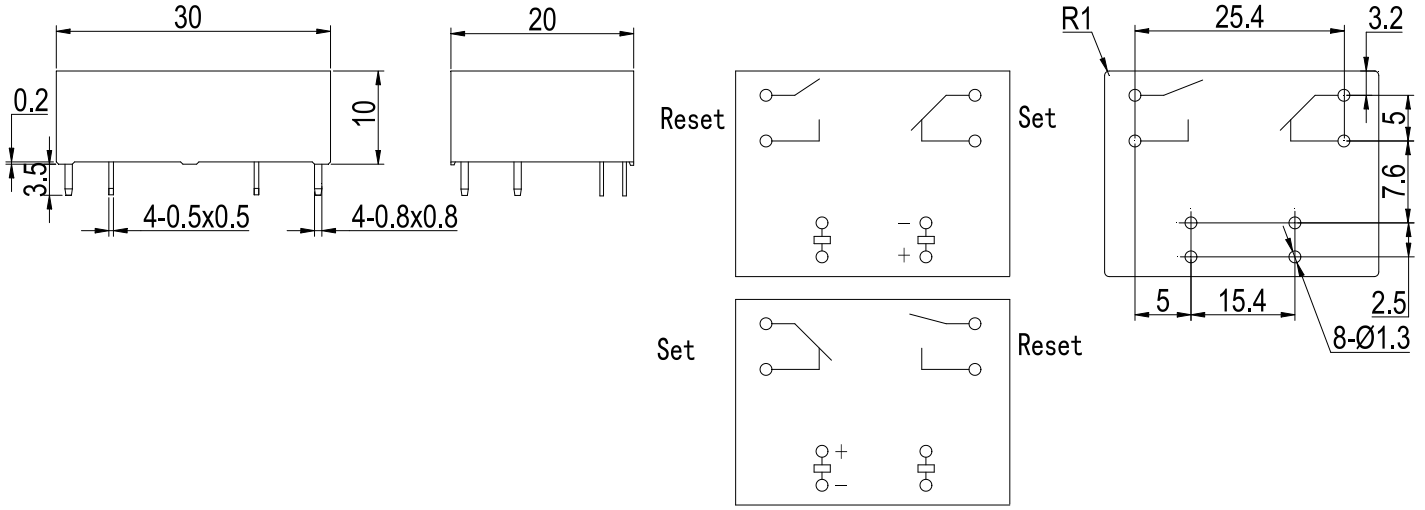
⑦ Coil specification:DC5/6/9/12/24V

## ■ OUTLINE DIMENSIONS,WIRING DIAGRAM AND PC BOARD LAYOUT(Unit:mm)

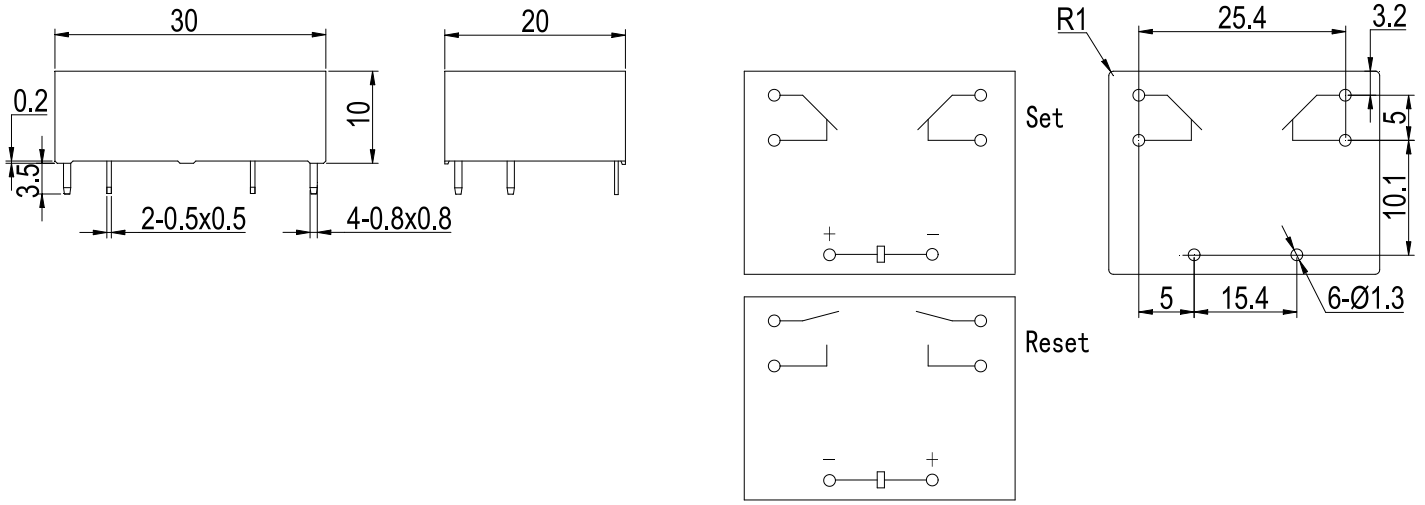
**1A1B** Outline Dimensions Wiring Diagram PCB Layout
**(single coil latching)** (Bottom view) (Bottom view)




**1A1B** Outline Dimensions Wiring Diagram PCB Layout
**(double coils latching)** (Bottom view) (Bottom view)

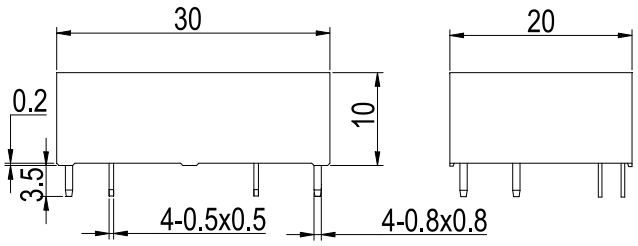


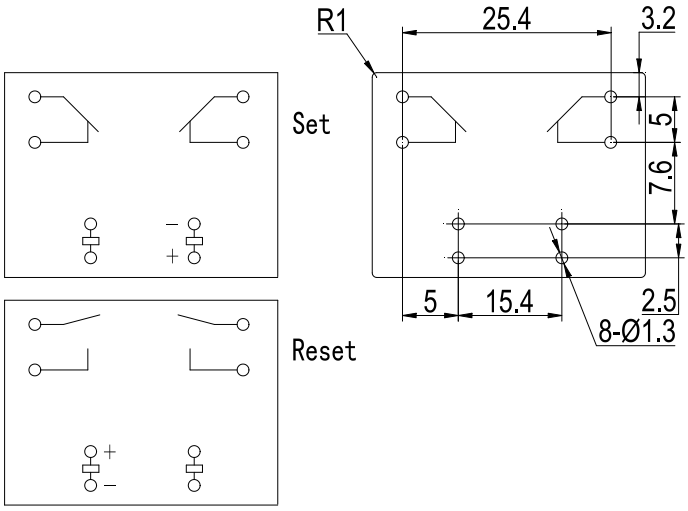

**2A/2B** Outline Dimensions Wiring Diagram PCB Layout
**(single coil latching)** (Bottom view) (Bottom view)



## ■ OUTLINE DIMENSIONS,WIRING DIAGRAM AND PC BOARD LAYOUT(Unit:mm)

**2A/2B** Outline Dimensions Wiring Diagram PCB Layout
**(double coils latching)** (Bottom view) (Bottom view)




Remark: (1) In case of no tolerance shown in outline dimension:outline dimension≤1mm,tolerance should be±0.2mm;outline dimension >1mm and <5mm,tolerance should be ±0.3mm;outline dimension≥5mm,tolerance should be ±0.5mm.

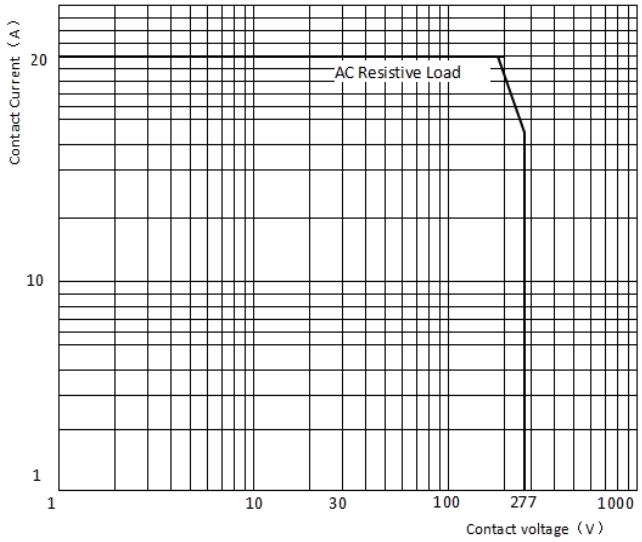
(2) The tolerance without indicating for PCB layout is always ±0.1mm.

## ■ SAFETY APPROVAL RATINGS

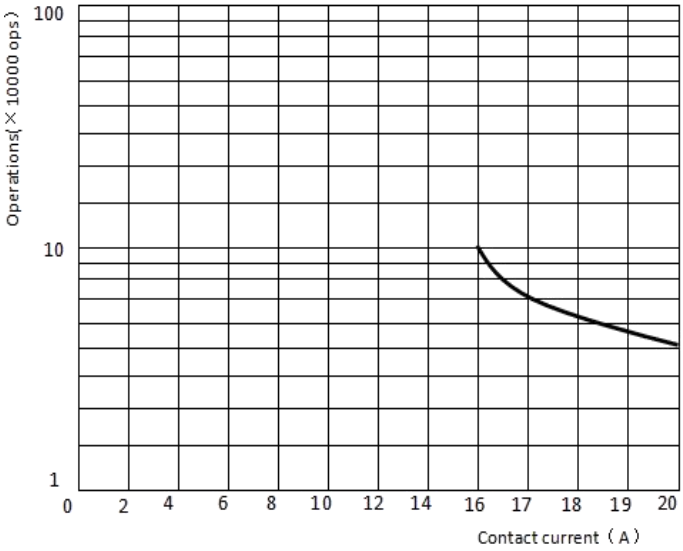
| Approval | File No. | Contact arrangement | Contact material | Approved ratings |
|---|---|---|---|---|
| UL/C-UL | E475405 | 2A(NO)<br>2B(NC) | $AgSnO_2$ | 20A/16A 250VAC 85℃<br>TV-8 250VAC 85℃<br>1.5HP 250VAC 85℃<br>10A 250VAC(LED Lamp) 85℃ |
| TUV | R 50407003 | 2A(NO)<br>2B(NC) | $AgSnO_2$ | 20A /16A 250VAC 85℃<br>20A /16A 250VAC 85℃ |
| CQC | CQC18002188988 | 2A、2B | $AgSnO_2$ | 20A /16A 250VAC 85℃ |

## ■ PERFORMANCE CURVES

MAXIMUM SWITCHING POWER




ENDURANCE CURVE




## ■ NOTICE

① With the consideration of shock risen from transit and relay mounting,relay's initial state might be changed ,please impose pulse voltage to reset the relay before using(rated coil voltage,impulse width≥5 times operation time.

② In order to maintain the initial performance parameters of the relay, please be careful not to drop the product;

③ In order to maintain the "set" or "reset" status, energized voltage to coil should reach the rated voltage, impulse width should be 5 times more than “set” or “reset” time. Do not energize the voltage to "set" coil and "reset" coil simultaneously.

④ The specification is for reference only.Specifications subject to change without notice.