

Features

- 12A switching capability
- Single coil and double coils are all available
- Small size, the height of the product is only 12mm
- UL insulation system:Class F
- Environmental friendly product(RoHS compliant)
- Outline Dimensions:(20.0×10.0×11.8)mm
- Main application:Home appliance, Smart home



CHARACTERISTICS

| Specifications         | Item                           |                       |  |
|------------------------|--------------------------------|-----------------------|--|
| Contact Data           | Contact arrangement            |                       | 1A   |
|                        | Contact resistance             |                       | ≤50mΩ(6VDC 1A)   |
|                        | Contact material               |                       | AgSnO <sub>2</sub>   |
| Rated value            | Rated load(Resistance load)    |                       | 10A 250VAC   |
|                        | Max.switching voltage          |                       | 277VAC   |
|                        | Max.switching current          |                       | 12A  |
|                        | Max.switching capacity         |                       | 3000VA   |
|                        | Min.allowing load              |                       | 5VDC 100mA   |
| Electrical performance | Insulation resistance(initial) |                       | 1000MΩ(500VDC)   |
|                        | Dielectric strength (initial)) | Between open contacts | 1000VAC,1min   |
|                        |                                | Between coil&contacts | 3000VAC,1min   |
|                        | Set time                       |                       | ≤10ms  |
|                        | Reset time                     |                       | ≤10ms  |
| Mechanical performance | Shock resistance               | Functional            | 98m/s <sup>2</sup> (10g)                                       |
|                        |                                | Destructive           | 980m/s <sup>2</sup> (100g)                                     |
|                        | Vibration resistance           |                       | 10Hz~55Hz 1.5mm DA   |
| Endurance              | Mechanical                     |                       | 1×10 <sup>6</sup> ops  |
|                        | Electrical(Room temperature)   |                       | 8A 250VAC 1×10 <sup>5</sup> ops(ON/OFF=1s/9s, Resistive Load)  |
|                        |                                |                       | 10A 250VAC 5×10 <sup>4</sup> ops(ON/OFF=1s/9s, Resistive Load) |
|                        |                                |                       | 12A 250VAC 3×10 <sup>4</sup> ops(ON/OFF=1s/9s, Resistive Load) |
| Operate condition      | Ambient temperature            |                       | -40℃～85℃   |
|                        | Humidity                       |                       | 5% to 85%  |
| Termination            |                                |                       | PCB  |
| Unit weight            |                                |                       | Approx.4.5g  |
| Construction           |                                |                       | Plastic sealed, 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 3V           | ≤2.40           | ≤2.40             | 100mA                | 30Ω                    | 0.3W          | DC 4.5V     |
| DC 5V           | ≤3.75           | ≤3.75             | 60mA                 | 83.3Ω                  |               | DC 7.5V     |
| DC 9V           | ≤6.75           | ≤6.75             | 33.3mA               | 270Ω                   |               | DC 13.5V    |
| DC 12V          | ≤9.00           | ≤9.00             | 25mA                 | 480Ω                   |               | DC 18V      |
| DC 24V          | ≤18.0           | ≤18.0             | 12.5mA               | 1920Ω                  |               | DC 36V      |

### ■ Double coils latching

| Nominal Voltage | Set Voltage VDC | Reset Voltage VDC | Rated Current (±10%) | Coil Resistance (±10%) | Nominal Power | Max Voltage |
|-----------------|-----------------|-------------------|----------------------|------------------------|---------------|-------------|
| DC 3V           | ≤2.40           | ≤2.40             | 200/200mA            | 15/15Ω                 | 0.6W          | DC 4.5V     |
| DC 5V           | ≤3.75           | ≤3.75             | 120/120mA            | 41.7/41.7Ω             |               | DC 7.5V     |
| DC 9V           | ≤6.75           | ≤6.75             | 66.6/66.6mA          | 135/135Ω               |               | DC 13.5V    |
| DC 12V          | ≤9.00           | ≤9.00             | 50/50mA              | 240/240Ω               |               | DC 18V      |
| DC 24V          | ≤18.0           | ≤18.0             | 25/25mA              | 960/960Ω               |               | DC 36V      |

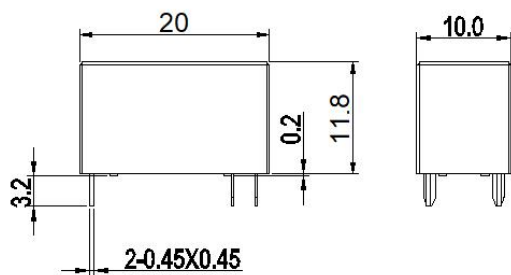
## ■ ORDERING INFORMATION

|   |               |            |          |          |            |          |             |              |
|---|---------------|------------|----------|----------|------------|----------|-------------|--------------|
|   | <b>FH44LS</b> | <b>-1A</b> | <b>S</b> | <b>T</b> | <b>-L1</b> | <b>R</b> | <b>-XXX</b> | <b>DC12V</b> |
| ① Type  |               |            |          |          |            |          |             |              |
| ② Contact arrangement:1A=1open contacts                                   |               |            |          |          |            |          |             |              |
| ③ Construction(1):Nil=Flux proofed,S=Plastic sealed                       |               |            |          |          |            |          |             |              |
| ④ Contact material:T=AgSnO <sub>2</sub>                                   |               |            |          |          |            |          |             |              |
| ⑤ Coil type:L1=Single coil latching,L2=Double coils latching              |               |            |          |          |            |          |             |              |
| ⑥ Operation polarity:Nil=standard polarity R=reversed polarity            |               |            |          |          |            |          |             |              |
| ⑦ Customer special code:numbers or letters denote customer's requirements |               |            |          |          |            |          |             |              |
| ⑧ Coil specification:DC5/6/9/12/24V                                       |               |            |          |          |            |          |             |              |

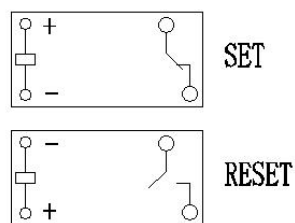
- (1) When used in clean environment(excluding H<sub>2</sub>S,SO<sub>2</sub>,NO<sub>2</sub>,dust and other pollutants), it is recommended to choose the Flux proofed type;When used in unclean environment(contain H<sub>2</sub>S,SO<sub>2</sub>,NO<sub>2</sub>,dust and other pollutants), it is recommended to choose the Plastic sealed.

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

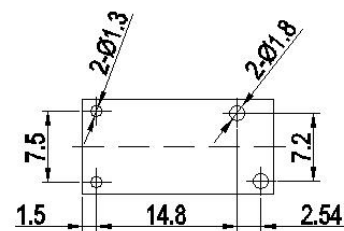
**1A** Outline Dimensions  
(Single coil latching)



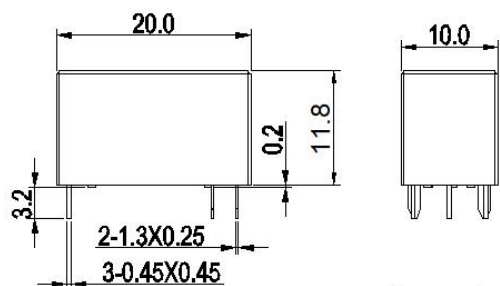
Wiring Diagram  
(Bottom view)



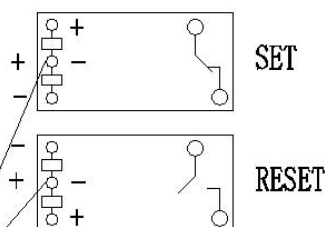
PCB Layout  
(Bottom view)



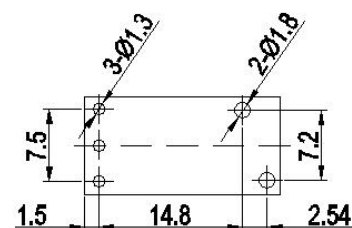
**1A** Outline Dimensions  
(Double coils latching)



Wiring Diagram  
(Bottom view)



PCB Layout  
(Bottom view)



The common terminal positive and negative poles are optional

Remark:(1)In case of no tolerance shown in outline dimension:outline dimension $\leq$ 1mm,tolerance should be $\pm$ 0.2mm;outline dimension  $>$ 1mm and  $<$ 5mm,tolerance should be  $\pm$ 0.3mm;outline dimension $\geq$ 5mm,tolerance should be  $\pm$ 0.5mm.

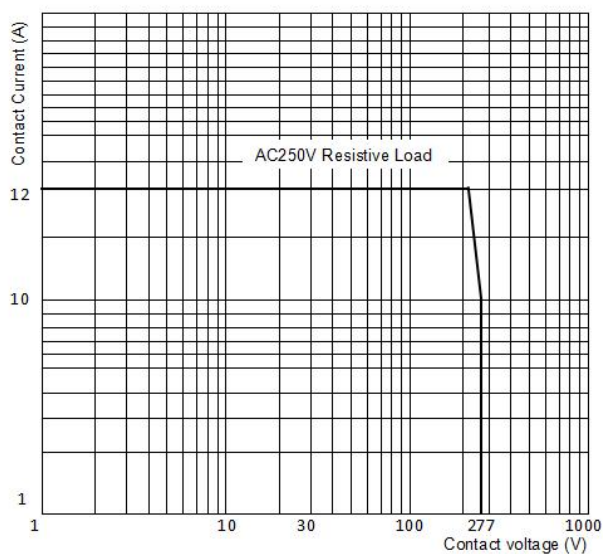
(2) The tolerance without indicating for PCB layout is always  $\pm$ 0.1mm.

## SAFETY APPROVAL RATINGS

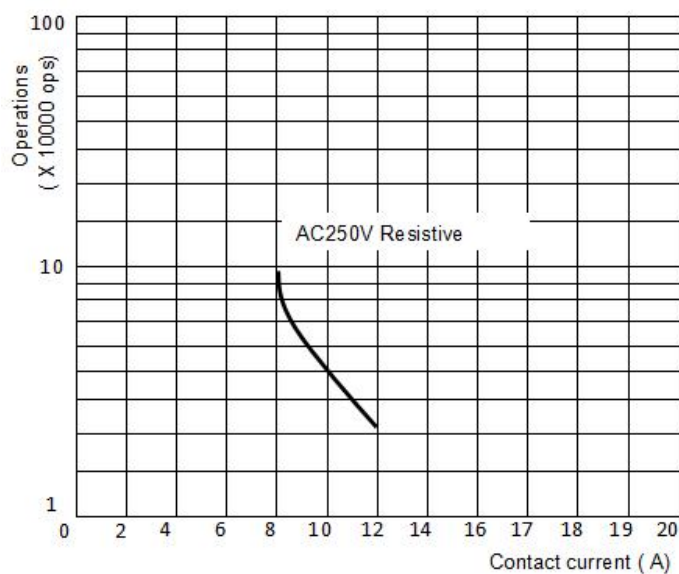
| Approval | File No.       | Contact arrangement | Contact material | Approved ratings |                       |     |
|----------|----------------|---------------------|------------------|------------------|-----------------------|-----|
| UL/C-UL  | E475405        | 1A                  | AgSnO2           | Standard         |                       |     |
|          |                |                     |                  | 10A 277/250VAC   | 5×104(ON/OFF=1s/9s)   | 85℃ |
|          |                |                     |                  | 16A 277/250VAC   | 2×104(ON/OFF=1s/9s)   | 85℃ |
|          |                |                     |                  | TV-5 125VAC      | 2.5×104(ON/OFF=1s/9s) | 85℃ |
| TUV      | R50654293      | 1A                  | AgSnO2           | Standard         |                       |     |
|          |                |                     |                  | 10A 277/250VAC   | 5×104(ON/OFF=1s/9s)   | 85℃ |
|          |                |                     |                  | 16A 277/250VAC   | 2×104(ON/OFF=1s/9s)   | 85℃ |
| CQC      | CQC24002455512 | 1A                  | AgSnO2           | Standard         |                       |     |
|          |                |                     |                  | 10A 277/250VAC   | 5×104(ON/OFF=1s/9s)   | 85℃ |
|          |                |                     |                  | 16A 277/250VAC   | 2×104(ON/OFF=1s/9s)   | 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 $\geq$ 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.