# FH15D MINIATURE HIGH-POWER DC RELAY

**Features**

- 1A:10A 300VDC high-voltage switching capability
- 5kV dielectric strength(between coil and contacts)
- Creep age distance:10mm
- Meet Reinforce insulation:Class F


## CHARACTERISTICS

| Specifications | Item | | |
|---|---|---|---|
| Contact Data | Contact arrangement | | 1A |
| | Contact resistance (initial value) | | ≤100mΩ(6VDC 1A) |
| | Contact material | | $AgSnO_2$ |
| Rated load | Rated load(Resistance load) | | 10A 300VDC |
| | Max.switching voltage | | 500VDC |
| | Max.switching current | | 16A |
| | Max.switching capacity | | 3000W |
| Electrical performance | Insulation resistance(initial) | | 1000MΩ(500VDC) |
| | Dielectric strength (initial) | Between open contacts | 1500VAC,1 min |
| | | Between coil&contacts | 5000VAC,1 min |
| | Operate Time | | ≤10ms |
| | releasing time | | ≤5ms |
| Mechanical performance | Shock resistance | Functional | $98m/s^2$(10g) |
| | | Destructive | $980m/s^2$(100g) |
| | Vibration resistance | | 10Hz～55Hz 1.5mm DA |
| Endurance | Mechanical | | $2\times10^6$ops |
| | Electrical | | 10A 300VDC （1A1） Resistive load,85℃ $1\times10^4$ops(ON/OFF=1s/9s)<br>10A 220VDC （1A1） Resistive load,85℃ $1\times10^5$ops(ON/OFF=1s/9s) |
| Operate condition | Ambient temperature | | -40℃～85℃ |
| | Humidity | | 5% to 85% |
| Termination | | | PCB |
| Unit weight | | | Approx.15g |
| Construction | | | Flux proofed、Plastic sealed |

## ■ COIL DATA (23℃)

| Nominal Voltage | Pull-in voltage VDC | release voltage VDC | Rated Current (±10%) | Coil Resistance (±10%) | Nominal Power | Max Voltage |
|---|---|---|---|---|---|---|
| DC 5V | ≤3.75 | ≥0.5 | 80mA | 62Ω | 400mW | DC 6.0V |
| DC 6V | ≤4.50 | ≥0.6 | 66.7mA | 90Ω | | DC 7.2V |
| DC 9V | ≤6.75 | ≥0.9 | 44.4mA | 200Ω | | DC 10.8V |
| DC 12V | ≤9.00 | ≥1.2 | 33.3mA | 360Ω | | DC 14.4V |
| DC 18V | ≤13.50 | ≥1.8 | 22.2mA | 810Ω | | DC 21.6V |
| DC 24V | ≤18.00 | ≥2.4 | 16.7mA | 1440Ω | | DC 28.8V |

## ■ ORDERING INFORMATION

| FH15D | -1A | 1 | S | T | -XXX | DC12V |
|---|---|---|---|---|---|---|

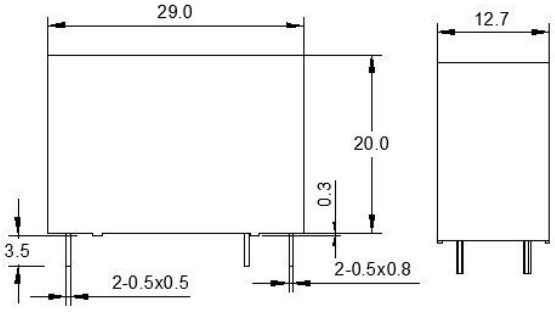
① Type：
② Contact arrangement：1A=1 open contacts
③ Version：1=5.0mm pitch single pinout
④ Construction(1)：Nil=Flux proofed,S=Plastic sealed
⑤ Contact material：T=$AgSnO_2$
⑥ Customer special requirement：:numbers or letters denote customer's requirements
⑦ Coil specification：DC5/6/9/12/18/24V

(1) When used in clean environment(excluding $H_2S$,$SO_2$,$NO_2$,dust and other pollutants), it is recommended to choose the Flux proofed type;When used in unclean environment(contain $H_2S$,$SO_2$,$NO_2$,dust and other pollutants), it is recommended to choose the Plastic sealed.

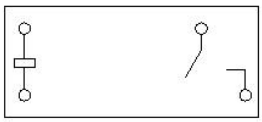
## ■ OUTLINE DIMENSIONS,WIRING DIAGRAM AND PC BOARD LAYOUT(Unit:mm)

**1A**

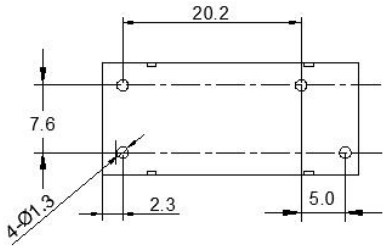
Outline Dimensions




Wiring diagram
(Bottom view)



PCB Layout
(Bottom view)

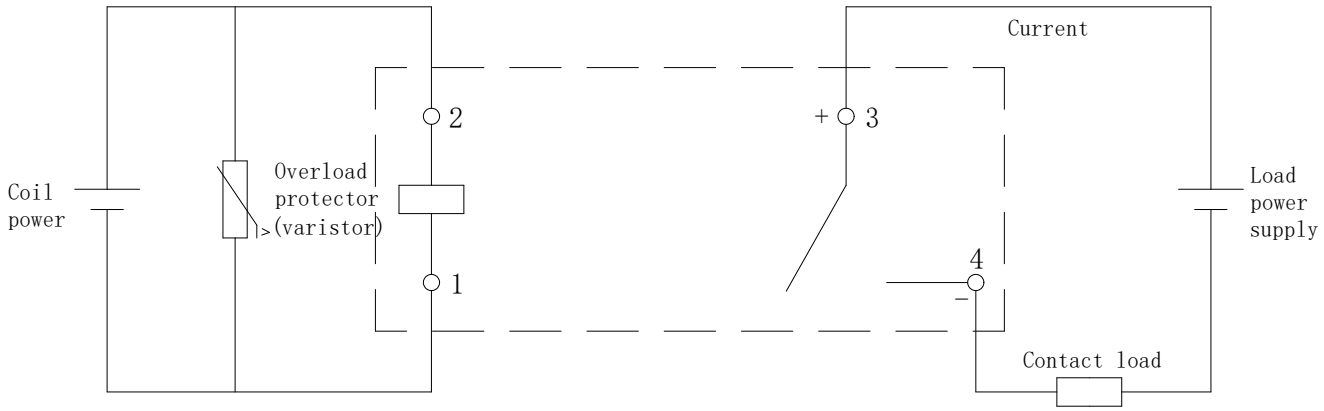



Remark:(1)In case of no tolerance shown in outline dimension:outline dimension≤1mm,tolerance should be±0.2mm;outline dimension >1mm and <5mm,tolerance should be ±0.3mm;outline dimension≥5mm,tolerance should be ±0.5mm.

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

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

# Load circuit and input circuit(Bottom view)




(1) The output contact terminals and the input coil terminal are no polarity to distinguish,Recommended wiring configuration: Connect the load power supply positive to pin "3".

(2) If there is a coil voltage reduction and holding application, the positive pole of the coil needs to be input from pin "2".

(3) Varistor surge protection device should be connect parallel to coils. Suitable voltage of varistor is 3 times the coil voltage.

(4) Avoid using relay under the strong magnetic field, which will decrease the blast function and magnetic, thus cause the arc can not be interrupted

and relay damaged.

(5) To avoid using relays under strong magnetic field because it will change the parameters of relay such as pull-in and drop-out voltage.

(6) There is magnetic element inside, the magnetism would make the relays stick to each other, in order to avoid the sticking that may lead to

deformation or parameter change inside the relay, gap is needed between the relay units.

(7) There is magnetic element inside, the magnetism would make the relays repel each other. When more than one relay need in board layout,

there should be gap between each units, in order to avoid the repel and soldering issue.

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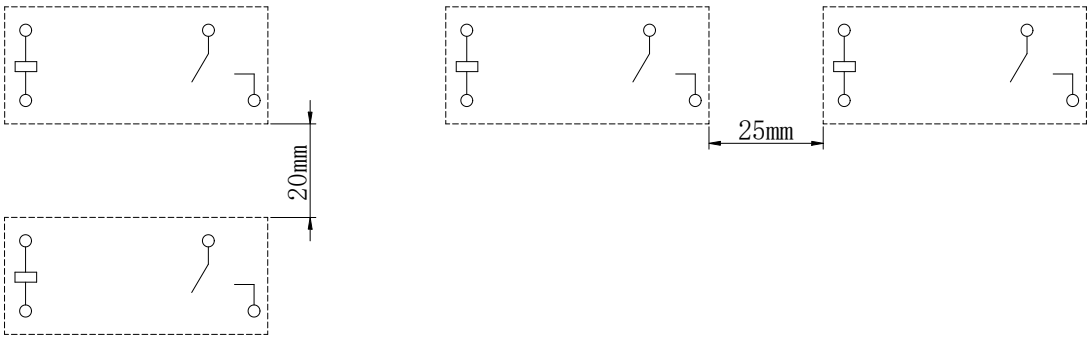
there should be gap between each units, in order to avoid the repel and soldering issue.

(9) When the relays are installed side by side, it is recommended to install

≥20mm, and the recommended installation spacing is ≥25mm when installing opposite the same column.




## ■ NOTICE

①In order to maintain the initial performance parameters of the relay, please be careful not to drop the product;

②The specification is for reference only.Specifications subject to change without notice.