

## Features

- 40A switching capability
- UL insulation system:Class F
- Environmental friendly product(RoHS compliant)
- Outline Dimensions:(50.2×27.3×27.5)mm



## ■ CHARACTERISTICS

| Specifications         | Item                             |                       |                                                                  |
|------------------------|----------------------------------|-----------------------|------------------------------------------------------------------|
| Contact Data           | Contact arrangement              |                       | 1A, 1B, 1C                                                       |
|                        | Contact resistance(initial)      |                       | ≤50mΩ(6VDC 1A)                                                   |
|                        | Contact material                 |                       | AgSnO <sub>2</sub>                                               |
| Rated value            | Rated load(Resistance load)      |                       | NO:30A(Standard Type)/40A 277VAC      20A 28VDC<br>NC:20A 277VAC |
|                        | Max.switching voltage            |                       | 277VAC   28VDC                                                   |
|                        | Max.switching current            |                       | 40A                                                              |
|                        | Max.switching capacity           |                       | 11080VA   560W                                                   |
|                        | Min.allowing load                |                       | 5VDC 100mA                                                       |
| Electrical performance | Insulation resistance(initial)   |                       | 1000MΩ(500VDC)                                                   |
|                        | Dielectric strength<br>(initial) | Between open contacts | 1500VAC,1min                                                     |
|                        |                                  | Between coil&contacts | 2500VAC,1min                                                     |
|                        | Operate time                     |                       | ≤15ms                                                            |
|                        | Release 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)     |                       | NO: 30A   277VAC/28VDC      1×10 <sup>5</sup> ops(ON/OFF=1s/9s)  |
|                        |                                  |                       | NO: 40A   277VAC      1×10 <sup>4</sup> ops(ON/OFF=1s/9s)        |
|                        |                                  |                       | NC: 20A   277VAC      1×10 <sup>4</sup> ops(ON/OFF=1s/9s)        |
| Operate condition      | Ambient temperature              |                       | DC:-45℃~85℃      AC:-45℃~60℃                                     |
|                        | Humidity                         |                       | 5% to 85%                                                        |
| Termination            |                                  |                       | Quickly contact terminal                                         |
| Unit weight            |                                  |                       | Approx.36g                                                       |
| Construction           |                                  |                       | Plastic sealed, Flux proofed                                     |

## COIL DATA(23℃)

### DC Type

| Nominal Voltage | Operate Voltage VDC | Release Voltage VDC | Rated Current (±10%) | Coil Resistance (±10%) | Nominal Power | Max Voltage |
|-----------------|---------------------|---------------------|----------------------|------------------------|---------------|-------------|
| DC 5V           | ≤3.75               | ≥0.5                | 180mA                | 27.7Ω                  | 900mW         | DC 6.5V     |
| DC 6V           | ≤4.5                | ≥0.6                | 150mA                | 40Ω                    |               | DC 7.8V     |
| DC 9V           | ≤6.75               | ≥0.9                | 100mA                | 90Ω                    |               | DC 11.7V    |
| DC 12V          | ≤9.0                | ≥1.2                | 75mA                 | 160Ω                   |               | DC 15.6V    |
| DC 15V          | ≤11.25              | ≥1.5                | 60mA                 | 250Ω                   |               | DC 19.5V    |
| DC 18V          | ≤13.5               | ≥1.8                | 50mA                 | 360Ω                   |               | DC 23.4V    |
| DC 24V          | ≤18.0               | ≥2.4                | 37.5mA               | 640Ω                   |               | DC 31.2V    |
| DC 48V          | ≤6.0                | ≥4.8                | 18.75mA              | 2560Ω                  |               | DC 62.4V    |
| DC 110V         | ≤82.5               | ≥11.0               | 8.2mA                | 13444Ω                 |               | DC 143.0V   |

### AC Type

| Nominal Voltage | Operate Voltage VDC | Release Voltage VDC | Rated Current (±10%) | Coil Resistance (±10%) | Nominal Power | Max Voltage |
|-----------------|---------------------|---------------------|----------------------|------------------------|---------------|-------------|
| AC 12V          | ≤9.6                | ≥1.2                | 444.4mA              | 27Ω                    | 2VA           | AC 14.4V    |
| AC 24V          | ≤19.2               | ≥2.4                | 200mA                | 120Ω                   |               | AC 28.8V    |
| AC 110V         | ≤88.0               | ≥11.0               | 88.9mA               | 2360Ω                  |               | AC 132.0V   |
| AC 120V         | ≤96.0               | ≥12.0               | 46.6mA               | 3040Ω                  |               | AC 144.0V   |
| AC 220V         | ≤176.0              | ≥22.0               | 46.6mA               | 13490Ω                 |               | AC 264.0V   |
| AC 240V         | ≤192.0              | ≥24.0               | 16.3mA               | 15735Ω                 |               | AC 288.0V   |
| AC 277V         | ≤221.6              | ≥27.7               | 13.6mA               | 20300Ω                 |               | AC 332.4V   |

## ORDERING INFORMATION

**FH52/FH52A**

**-1A**

**S**

**T**

**-XXX**

**DC5V**

① Type: FH52=DC Type、FH52A =AC Type

② Contact arrangement:1A=1 open contacts,  
1B=1 close contacts, 1C=1 switched contacts

③ Construction(1):Nil=Flux proofed,S=Plastic sealed

④ Contact material:T=AgSnO<sub>2</sub>

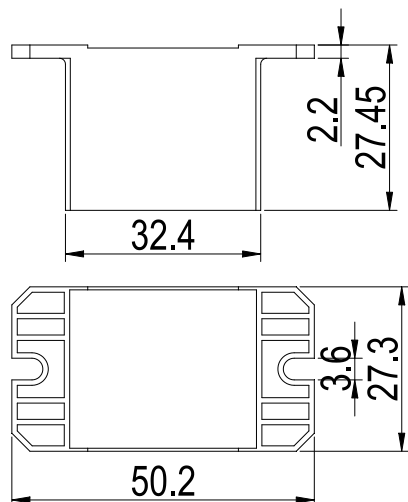
⑤ Customer special code:numbers or letters denote customer's requirements

⑥ Coil specification:DC Type:DC5V~110V AC Type:AC12V~277V

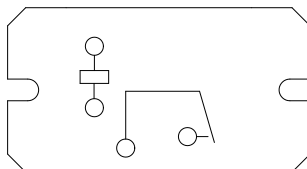
- (1) When used in clean environment(excluding H<sub>2</sub>S,SO<sub>2</sub>,NO<sub>2</sub>,dust and other pollutants), it is recommended to choose the Flux proofed type;When used in unclean environment(contain H<sub>2</sub>S,SO<sub>2</sub>,NO<sub>2</sub>,dust and other pollutants), it is recommended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

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

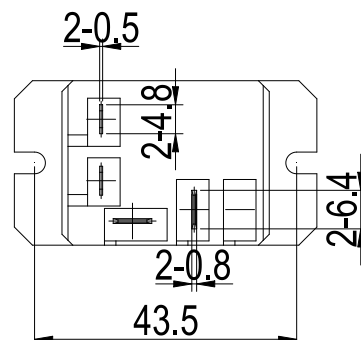
**1A** Outline Dimensions



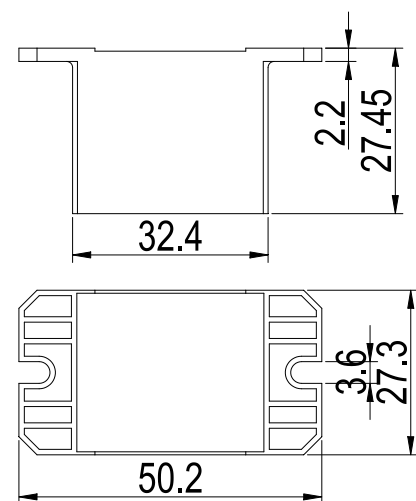
Wiring Diagram  
(Bottom view)



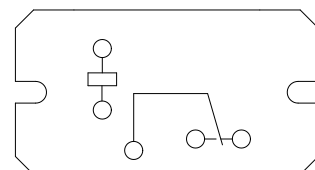
PCB Layout  
(Bottom view)



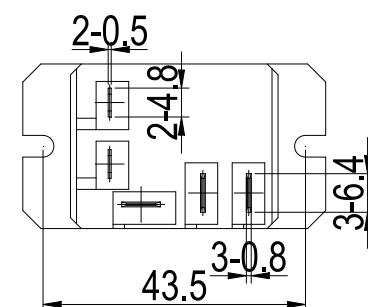
**1B** Outline Dimensions



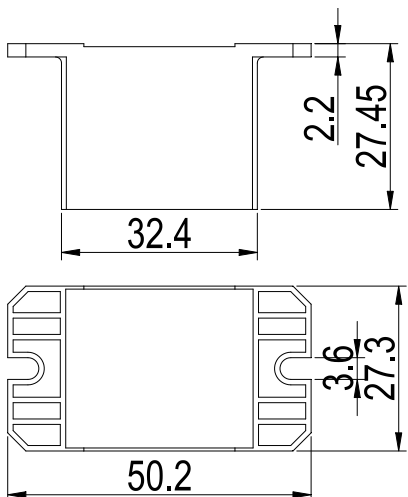
Wiring Diagram  
(Bottom view)



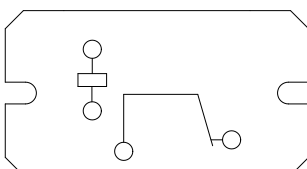
PCB Layout  
(Bottom view)



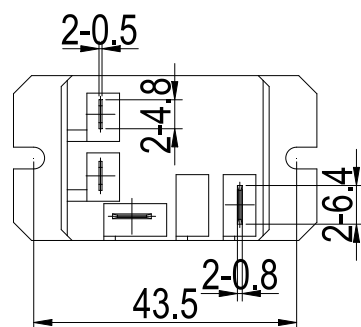
**1C** Outline Dimensions



Wiring Diagram  
(Bottom view)



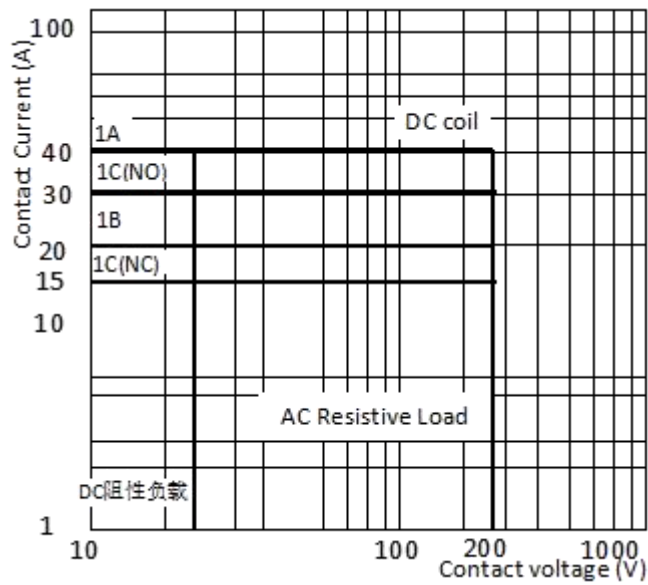
PCB Layout  
(Bottom view)



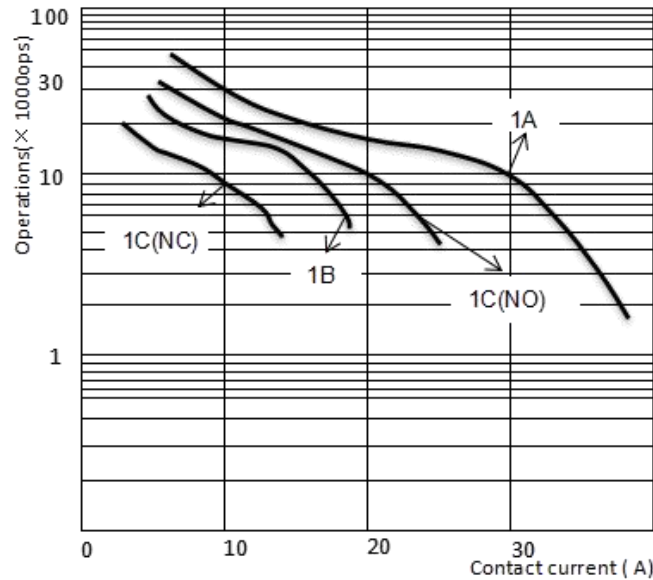
Remark:(1)In case of no tolerance shown in outline dimension:outline dimension≤1mm,tolerance should be±0.2mm;outline dimension >1mm and <5mm,tolerance should be ±0.3mm;outline dimension≥5mm,tolerance should be ±0.5mm.  
(2) The tolerance without indicating for PCB layout is always ±0.1mm.

■ PERFORMANCE CURVES

MAXIMUM SWITCHING POWER



ENDURANCE CURVE



■ NOTICE

- ① In order to maintain the initial performance parameters of the relay, please be careful not to drop the product;
- ② The specification is for reference only.Specifications subject to change without notice.