

HFE10-50

MINIATURE HIGH POWER LATCHING RELAY



Features

- 50A DC load capability
- Latching relay
- Inrush current withstand capability up to 500A for 2ms

RoHS compliant

CONTACT DATA

| | |
|----------------------------------|--|
| Contact arrangement | 1A,1B |
| Contact resistance ¹⁾ | Typical value: ²⁾ ≤10mΩ(1A 24VDC) |
| Contact material | AgSnO ₂ |
| Contact rating | 50A 250VAC(Res. load) 1x10 ⁴ ops 50A 60VDC(DC. load) 5x10 ⁴ ops 50A 150VDC(DC. load) 2x10 ⁴ ops |
| Max. switching voltage | 440VAC |
| Max. switching current | 50A |
| Max. switching power | 22000W |
| Mechanical endurance | 1 X 10 ⁵ ops |
| Electrical endurance | See "contact rating" |

Notes:1) The data shown above are initial values.

2) Typical value: Sampling quantity for contact resistance shall not less than 20 pcs, take the average value from 5 continuous measurements for each sample.

CHARACTERISTICS

| | | |
|-----------------------|------------------------------|------------------------|
| Insulation resistance | 1000MΩ(500VDC) | |
| Dielectric strength | Between contact & coil | 4000VAC 1min |
| | Between open contacts | 3000VAC(50/60Hz, 1min) |
| Creepage distance | >8mm | |
| Contact gap | ≥1.45mm | |
| Operate time | ≤15ms | |
| Release time | ≤15ms | |
| Shock resistance | Functional | 98m/s ² |
| | Destructive | 980m/s ² |
| Vibration resistance | 10Hz ~ 55Hz 1.5mm DA | |
| Humidity | 5% ~ 85% RH | |
| Ambient temperature | -40°C ~ 70°C | |
| Termination | PCB | |
| Unit weight | Approx. 40g | |
| Construction | Plastic sealed, Flux proofed | |

Notes: The data shown above are initial values.

COIL

| | |
|-------------|-------------------------------------|
| Rated power | Single coil latching: Approx. 2.4W |
| | Double coils latching: Approx. 4.8W |

COIL DATA

23°C

Single coil latching

| Nominal Voltage VDC | Set / Reset Voltage ¹⁾²⁾ VDC | Pulse Duration ms | Coil Resistance x (1±10%) Ω |
|---------------------|---|-------------------|-----------------------------|
| 6 | ≤4.8 | ≥50 | 15 |
| 9 | ≤7.2 | ≥50 | 33.7 |
| 12 | ≤9.6 | ≥50 | 60 |
| 24 | ≤19.2 | ≥50 | 240 |
| 48 | ≤38.4 | ≥50 | 960 |

Double coils latching

| Nominal Voltage VDC | Set / Reset Voltage ¹⁾²⁾ VDC | Pulse Duration ms | Coil Resistance x (1±10%) Ω |
|---------------------|---|-------------------|-----------------------------|
| 6 | ≤4.8 | ≥50 | 7.5+7.5 |
| 9 | ≤7.2 | ≥50 | 16.9+16.9 |
| 12 | ≤9.6 | ≥50 | 30+30 |
| 24 | ≤19.2 | ≥50 | 120+120 |
| 48 | ≤38.4 | ≥50 | 480+480 |

Notes:1) The data shown above are initial values.

2) The above set voltage, reset voltage are the test value for relay without load. Please use 1~1.5 times of rated voltage to drive the relay for your application.



HONGFA RELAY

ISO9001, IATF16949, ISO14001, OHSAS18001, IECQ QC 080000 CERTIFIED

2021 Rev.1.00

ORDERING INFORMATION

| | |
|----------------------------|--|
| Type | HFE10-50 /12 -H S T -L1 -R (XXX) |
| Coil voltage | 6,9,12,24,48 VDC |
| Contact arrangement | H: 1 Form A D: 1 Form B |
| Construction | S: Plastic sealed Nil: Flux proofed |
| Contact material | T: AgSnO ₂ |
| Coil type | L1: Single coil latching L2: Double coils latching |
| Polarity | R: Reverse polarity Nil: Standard polarity |
| Special code ¹⁾ | XXX:Customer special requirement |

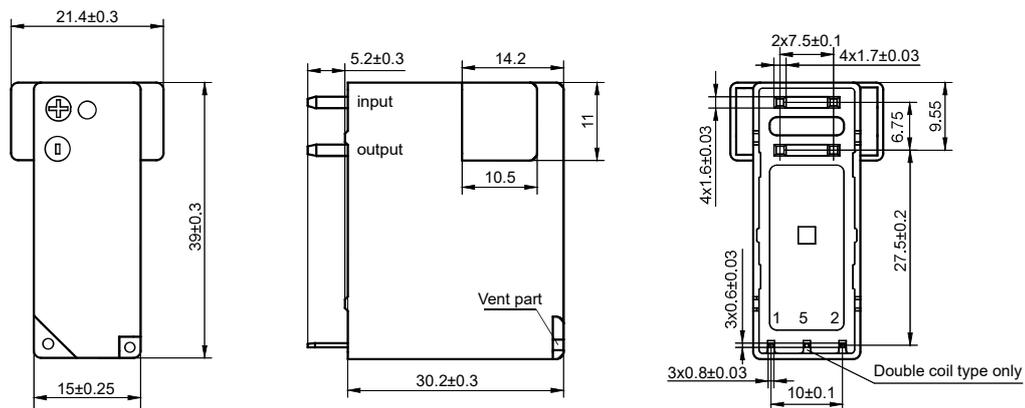
Notes: 1) The customer special requirement express as special code after evaluating by Hongfa.

OUTLINE DIMENSIONS AND WIRING DIAGRAM

Unit: mm

Outline Dimensions

HFE10-50

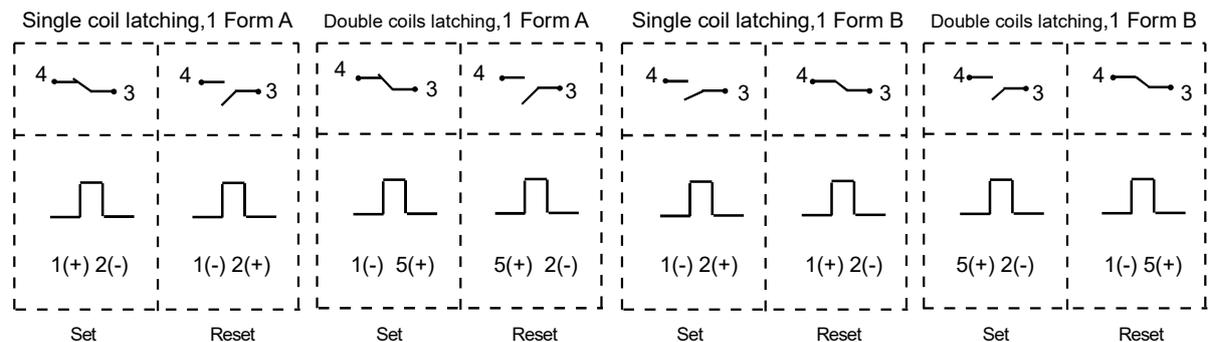


Remark:

1) In case of no tolerance shown in outline dimension: outline dimension ≤ 1 mm, tolerance should be ± 0.2 mm; outline dimension > 1 mm and ≤ 5 mm, tolerance should be ± 0.3 mm; outline dimension > 5 mm, tolerance should be ± 0.4 mm.

Wiring Diagram

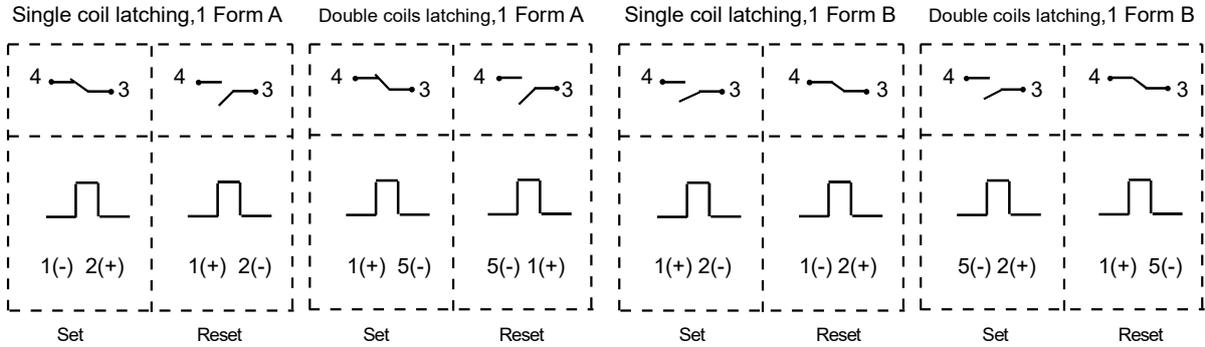
Standard polarity



OUTLINE DIMENSIONS AND WIRING DIAGRAM

Wiring Diagram

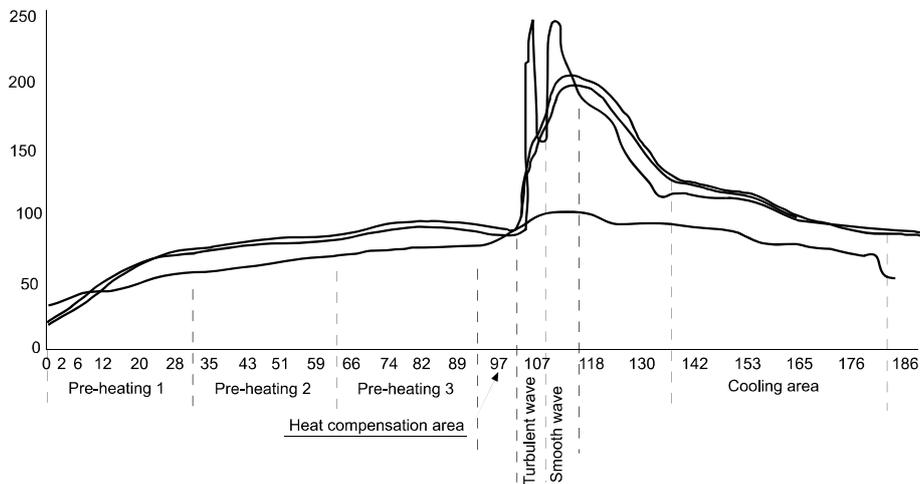
Reverse polarity



NOTICE

1. The recommended soldering temperature range is $250 \pm 10^\circ\text{C}$ with the duration of 2~5s. It is not suggested to apply reflow soldering method, if it is required indeed, please contact with our technicians. It is general required that the wave soldering temperature at 250°C shall not more than 2s.
2. Latching relay is on the "reset" or "set" status when delivery, with the consideration of shock risen from transit and relay mounting, relay would be changed to "set" or "reset" status, therefore, when application (connecting the power supply), please reset the relay to "set" or "reset" status on request.
3. In order to maintain "set" or "reset" status, energized voltage applied across the coil should reach the rated voltage, impulse width should be 5 times more than "set" or "reset" time. Do not energize voltage to "set" coil and "reset" coil simultaneously. And also long energized time (more than 1 min) should be avoided.

Wave soldering temperature distribution chart



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 Hongfa for the technical service. However, it is the user's responsibility to determine which product should be used only.

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