

# HFE10-L

# MINIATURE HIGH POWER LATCHING RELAY



File No.:E134517



File No.:40035869



## Features

- 20A switching capability
- The relay can stand short circuit SCCR 5000A peak current for 10ms
- Meet IEC60669-2-1
- Max. inrush current 500A/2ms
- Environmental friendly product (RoHS compliant)
- Outline Dimensions: (39.0 x 15.0 x 29.3)mm

## CONTACT DATA

|                              |   |
|------------------------------|---|
| Contact arrangement          | 1A, 1B  |
| Contact resistance           | 1.5mΩ max.(at 1A 6VDC)  |
| Contact material             | AgSnO <sub>2</sub>  |
| Contact rating <sup>1)</sup> | 277VAC 20A, 1 x 10 <sup>5</sup> OPS (Resistive)<br>30VDC 20A, 1 x 10 <sup>5</sup> OPS (Resistive)<br>250VAC 60A, 3 x 10 <sup>4</sup> OPS<br>( General purpose )<br>250VAC 5000W, 3 x 10 <sup>4</sup> OPS<br>(Incandescent lamp)<br>277VAC 20A, 3 x 10 <sup>4</sup> OPS<br>(Standard ballast)<br>277VAC 16A, 3 x 10 <sup>4</sup> OPS<br>(Electronic ballast) |
| Max. switching voltage       | 440VAC  |
| Max. switching current       | 60A   |
| Max. switching power         | 10000VA   |
| Max. continuous current      | 40A   |
| Mechanical endurance         | 1 x 10 <sup>6</sup> OPS   |
| Electrical endurance         | See rated load  |

**Notes:** Conform to EN60947-4-1(VDE0660-102),EN60669-1(VDE0632-1), EN60669-2-1, (VDE0632-1) lamp load request.

## SAFETY APPROVAL RATINGS

|               |       |  |
|---------------|-------|--|
| <b>UL/CUL</b> | 1A,1B | General purpose: 250VAC,60A<br>Standard ballast: 277VAC,20A<br>Electronic ballast: 277VAC,16A<br>Incandescent lamp: 250VAC,5000W   |
| <b>VDE</b>    | 1A,1B | Resistive load: 277VAC 20A<br>Fluorescent lamp ( uncompensated):<br>250VAC 20A<br>Fluorescent lamp (parallel compensated):<br>250VAC 20A<br>Incandescent lamp:250VAC,5000W<br>AC-1<br>AC-3 |

**Notes:** 1) All values unspecified are at room temperature.

2) Only some typical ratings are listed above. If more details are required, please contact us.

## COIL

|            |   |
|------------|---|
| Coil power | Single coil latching: Approx. 1.5W<br>Double coils latching: Approx. 3.0W |
|------------|---|

## CHARACTERISTICS

|                                     |                         |                     |
|-------------------------------------|-------------------------|---------------------|
| Insulation resistance               | 1000MΩ (at 500VDC)      |                     |
| Dielectric strength                 | Between coil & contacts | 4000VAC 1min        |
|                                     | Between open contacts   | 1500VAC 1min        |
| Creepage distance (input to output) | 12mm                    |                     |
| Set time (at nomi. volt.)           | 15ms max.               |                     |
| Reset time (at nomi. volt.)         | 15ms max.               |                     |
| Max. operate frequency              | 20cycles/min            |                     |
| Shock resistance                    | Functional              | 98m/s <sup>2</sup>  |
|                                     | Destructive             | 980m/s <sup>2</sup> |
| Vibration resistance                | 10Hz to 55Hz 1.5mm DA   |                     |
| Humidity                            | 5% to 85% RH            |                     |
| Ambient temperature                 | -40°C to 85°C           |                     |
| Termination                         | PCB                     |                     |
| Unit weight                         | Approx. 32g             |                     |
| Construction                        | Plastic sealed          |                     |

**Notes:** The data shown above are initial values.



HONGFA RELAY

ISO9001, ISO/TS16949, ISO14001, OHSAS18001, IECQ QC 080000 CERTIFIED

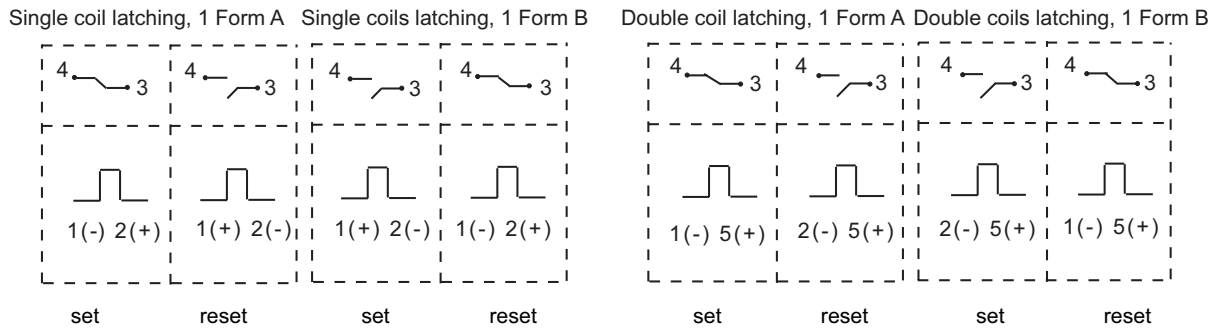
2016 Rev. 1.00



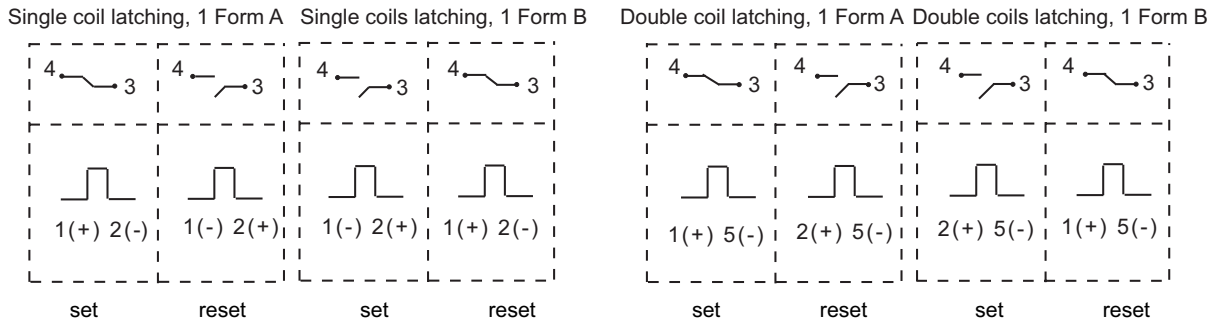
Remark: In case of no tolerance shown in outline dimension: outline dimension  $\leq 1\text{mm}$ , tolerance should be  $\pm 0.2\text{mm}$ ; outline dimension  $> 1\text{mm}$  and  $\leq 5\text{mm}$ , tolerance should be  $\pm 0.3\text{mm}$ ; outline dimension  $> 5\text{mm}$ , tolerance should be  $\pm 0.4\text{mm}$ .

**Wiring Diagram**

**Positive polarity**



**Negative polarity**



**Notice:**

1. When choose the relay with PCB termination, the recommended welding temperature range and duration is 240°C to 260°C, 2s to 5s; Please do not use the reflow welding method, if the reflow is really required, please contact our technicals; the normal recommended wave soldering temperature is 250°C within 2s.
2. Relay is on the "reset" or "set" status when being released from stock, 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 to 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.
4. Relays are made with dust proof structure, So no longer than 6 months' storage time is recommended for this kind of relay, and please pay attention to the storage environment. To ensure contact reliability, we will keep contact status be closed when delivery if no special required by customer.

**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.