HFE20 MINIATURE HIGH POWER LATCHING RELAY

**Features**

- 16A switching capability
- Latching relay
- Capacitor load up to 200μF
  (Min. inrush current at 500A/10μs)
- Min. inrush current Capacitor 170A(1A, 1C)
- Environmental friendly product (RoHS compliant)
- Outline Dimensions: (29.0 x 13.0 x 15.7)mm

<table>
<thead>
<tr>
<th>CONTACT DATA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Contact arrangement</td>
</tr>
<tr>
<td>Contact resistance</td>
</tr>
<tr>
<td>Contact material</td>
</tr>
<tr>
<td>Contact rating</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>Max. switching voltage</td>
</tr>
<tr>
<td>Max. switching current</td>
</tr>
<tr>
<td>Max. switching power</td>
</tr>
<tr>
<td>Mechanical endurance</td>
</tr>
<tr>
<td>Electrical endurance</td>
</tr>
</tbody>
</table>

**CHARACTERISTICS**

- Insulation resistance: 1000MΩ (at 500VDC)
- Dielectric strength: Between coil & contacts 4400VAC 1min
  Between open contacts 1000VAC 1min
- Creepage distance: 8mm
- Operate time (at nomi. volt.): 15ms max.
- Release time (at nomi. volt.): 15ms max.
- Shock resistance: Functional 98m/s²
  Destructive 980m/s²
- Vibration resistance: 10Hz to 55Hz 1.5mm DA
- Humidity: 5% to 85% RH, 40°C
- Ambient temperature: PCB
- Termination: -40°C to 85°C
- Unit weight: Approx. 13g
- Construction: Plastic sealed, Flux proofed

**COIL**

- Coil power: 1 coil latching: 400mW; 2 coils latching: 600mW

**COIL DATA at 23°C**

<table>
<thead>
<tr>
<th>Nominal Voltage VDC</th>
<th>Pick-up Voltage VDC</th>
<th>Coil Resistance x (1±10%) Ω</th>
</tr>
</thead>
<tbody>
<tr>
<td>3</td>
<td>2.4</td>
<td>22.5</td>
</tr>
<tr>
<td>5</td>
<td>4.0</td>
<td>62.5</td>
</tr>
<tr>
<td>6</td>
<td>4.8</td>
<td>90</td>
</tr>
<tr>
<td>12</td>
<td>9.6</td>
<td>360</td>
</tr>
<tr>
<td>24</td>
<td>19.2</td>
<td>1440</td>
</tr>
<tr>
<td>3</td>
<td>2.4</td>
<td>15+15</td>
</tr>
<tr>
<td>5</td>
<td>4.0</td>
<td>42+42</td>
</tr>
<tr>
<td>6</td>
<td>4.8</td>
<td>80+60</td>
</tr>
<tr>
<td>12</td>
<td>9.6</td>
<td>240+240</td>
</tr>
<tr>
<td>24</td>
<td>19.2</td>
<td>886+886</td>
</tr>
</tbody>
</table>

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

- Type: HFE20
- Version: 1: 5mm pin, 2: 3.5mm pin, 3: 2.5mm pin
- Coil voltage: 3, 5, 6, 12, 24 VDC
- Contact form: 1H: 1 Form A, 1D: 1 Form B, 1Z: 1 Form C (Only for HFE20-1, HFE20-2)
- Construction: S: Plastic sealed, NII: Flux proofed
- Contact material: T: AgSnO2, D: W+AgSnO2 (Only for HFE20-1/XX-1H), NII: AgNi
- Sort: L1: 1 coil latching, L2: 2 coils latching
- Polarity: R: Reverse polarity, NII: Positive polarity
- Customer special code

Notes:
1) H means that relay is on the "reset" status when delivery; D means that relay is on the "set" status when delivery.
2) If water cleaning is required after the relay is assembled on PCB, please contact us for suggestion about suitable parts.

OUTLINE DIMENSIONS AND WIRING DIAGRAM

Outline Dimensions

HFE20-1
Outline Dimensions

HFE20-2

HFE20-3
OUTLINE DIMENSIONS AND WIRING DIAGRAM

PCB Layout (Bottom view)

HFE20-1

1 Form C

1 Form A, 1 Form B, 1 Form U

1 Form C

1 Form A, 1 Form B

HFE20-2

1 Form A, 1 Form B

Wiring Diagram (Bottom view)

HFE20-3

Positive polarity

Reverse polarity

1 coil latching, 1 Form A

2 coils latching, 1 Form A

1 coil latching, 1 Form C

2 coils latching, 1 Form C

1 (+) 2 (-) 1 (-) 2 (+) 1 (+) 2 (+) 1 (+) 2 (-) 1 (+) 2 (+)
Wiring Diagram (Bottom view)

HFE20-1
HFE20-2

Positive polarity

1 coil latching, 1 Form A
2 coils latching, 1 Form A
1 coil latching, 1 Form C
2 coils latching, 1 Form C

Reverse polarity

1 coil latching, 1 Form A
2 coils latching, 1 Form A
1 coil latching, 1 Form C
2 coils latching, 1 Form C

Notice

1. 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.
2. 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.
3. In order to avoid changing operate voltage, products should not be kept in strong magnetic field during transportation, storage and application.

Disclaimer

This datasheet is for the customers' reference. All the specifications are 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.

© Xiamen Hongfa Electroacoustic Co., Ltd. All rights of Hongfa are reserved.