

# HFE 80V-80

# LOW VOLTAGE DIRECT CURRENT RELAY



## Features

- Carrying current 80A continuously at 85°C
- No specific polarity requirements for the connection
- 3kV dielectric strength between coil & contacts
- Outline Dimensions: (55.1 x 42.6 x 49.1) mm  
(55.1 x 76.6 x 49.6) mm

## CONTACT DATA

Contact arrangement	1A	
Contact resistance	1.5mΩ max. (6VDC 20A)	
Rated load current	80A	
Mechanical endurance	2 x 10 <sup>5</sup> ops	
Max. switching voltage	150VDC	
Max. breaking current	100A	
Max. switching power	12kW	
Electrical endurance <sup>1)</sup>	Res. load	Switching: 1 x 10 <sup>5</sup> ops (12VDC, 80A)
		Switching: 5 x 10 <sup>4</sup> ops (48VDC, 80A)
		Switching: 3 x 10 <sup>4</sup> ops (72VDC, 80A)
		Switching: 1 x 10 <sup>4</sup> ops (150VDC, 80A)
Current carrying capacity <sup>2)</sup>		80A: Cont.
		120A: 20min
		240A: 30s
		600A: 1s

**Notes:** 1) Until special statement, the temperature of electrical endurance is at 23°C and the on-off ratio is 0.6s:5.4s.  
2) Ambient temperature is room temperature and cross section area of wire is 20mm<sup>2</sup> min. See Pic Endurance Capacity Curve for more information.

## COIL

Nominal Voltage VDC	Pick-up Voltage VDC max.	Drop-out Voltage VDC min.	Coil power W
12	9	1.0	3
24	18	2.0	3

**Notes:** The values above are conservative values within the temperature range(-40°C to 85°C), the pick-up voltage and drop-out voltage are showed in the Pic Pick-up Voltage / Drop-out Voltage Curve.

## CHARACTERISTICS

Insulation resistance		1000MΩ (at 500VDC)
Dielectric strength	Between coil & contacts	3000VAC 1min.
	Between open contacts	2000VAC 1min.
Operate time (at nomi. volt.)		30ms max.
Release time (at nomi. volt.)		10ms max.
Shock resistance	Functional	196m/s <sup>2</sup>
	Destructive	490m/s <sup>2</sup>
Vibration resistance		10Hz to 500Hz 49m/s <sup>2</sup>
Humidity		5% to 85% RH
Ambient temperature		-40°C to 85°C
Termination		QC
Unit weight		Approx.200g

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



HONGFA RELAY

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

2016 Rev. 1.01

## ORDERING INFORMATION

	<b>HFE80V</b>	<b>-80/</b>	<b>150-</b>	<b>12-</b>	<b>H</b>	<b>T</b>	<b>2</b>	<b>B</b>	<b>(XXX)</b>
<b>Type</b>	V: New energy vehicle								
<b>Contact rating</b>	80: 80A								
<b>Load voltage</b>	Nil: ≤24VDC 150: ≤150VDC								
<b>Coil voltage</b>	12: 12VDC 24: 24VDC								
<b>Contact form</b>	H: 1 Form A								
<b>Contact material</b>	T: AgSnO <sub>2</sub>								
<b>Load input terminal</b>	2: QC								
<b>Shell structure</b>	B: With mounting boss Nil: Without mounting boss								
<b>Special code<sup>1)</sup></b>	XXX: Customer special requirement				Nil: Standard				

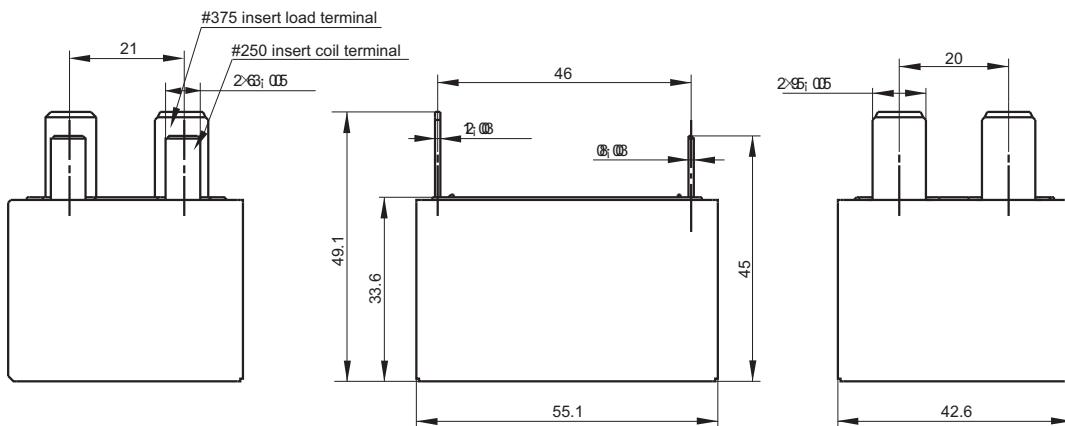
Notes: 1) The customer special requirement express as special code after evaluating by Hongfa.

## OUTLINE DIMENSIONS,INSTALLATION HOLE

Unit: mm

### Outline Dimensions

HFE80V-80/XXX-XX-HT2

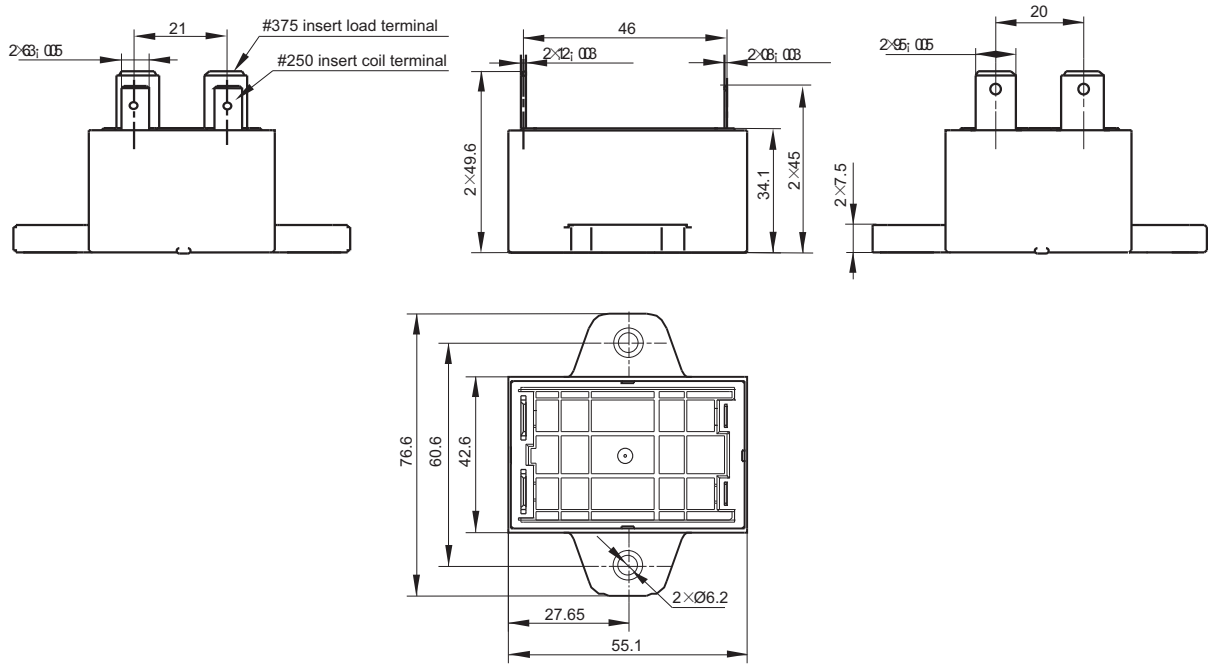


# OUTLINE DIMENSIONS, INSTALLATION HOLE

Unit: mm

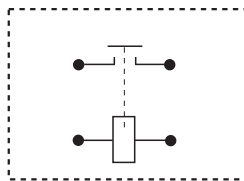
## Outline Dimensions

HFE80V-80/XXX-XX-HT2B



**Remark:** In case of no tolerance shown in outline dimension: outline dimension  $\leq 10$ mm, tolerance should be  $\pm 0.3$ mm; outline dimension  $> 10$ mm and  $\leq 50$ mm, tolerance should be  $\pm 0.5$ mm; outline dimension  $> 50$ mm, tolerance should be  $\pm 0.8$ mm.

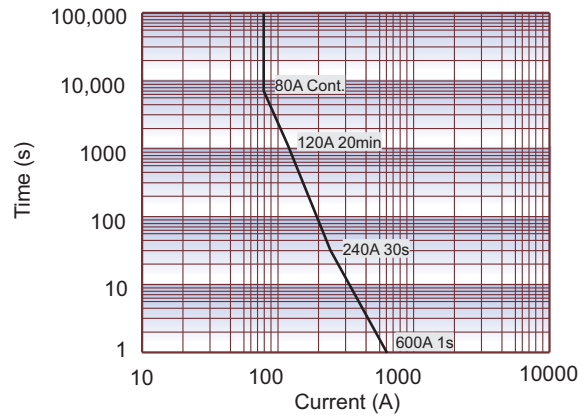
## Coil Wiring Diagram



note: no polarity on the loads and coil.

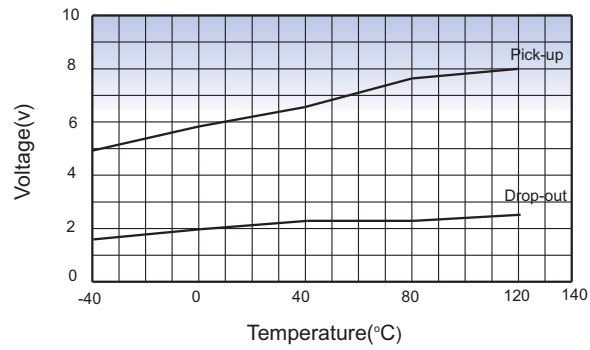
## CHARACTERISTIC CURVES

Endurance Capacity Curve



**Notes:** The data above is measured at the environment temperature 85°C with cross section area of wire  $\geq 20\text{mm}^2$ . This data is only for reference and please do not use it for fuse selection.

Pick-up Voltage / Drop-out Voltage Curve



**Notes:** When the coil voltage is 12V, the data above is taken as sample value and only for reference ( Sample quantity: n=3)

## Cautions

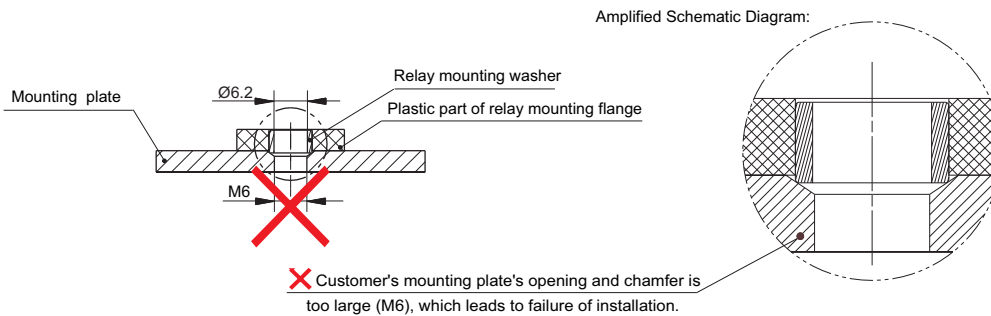
1. In case of loosening, please use washer when install the relay with M5 screw, and the torque within 3N·m to 4N·m. The push and pull force for terminals is 49N for load terminals and 49N for coil terminals. The torque beyond the range may cause damage.

2. Please do not adhere foreign materials like oil on the terminals and please use the wire with cross section area  $20\text{mm}^2$  min, otherwise the terminal parts may have abnormal heating.

3. Cautions of Relay installation:

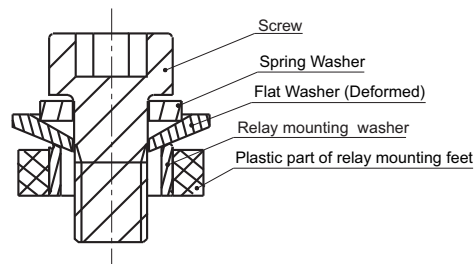
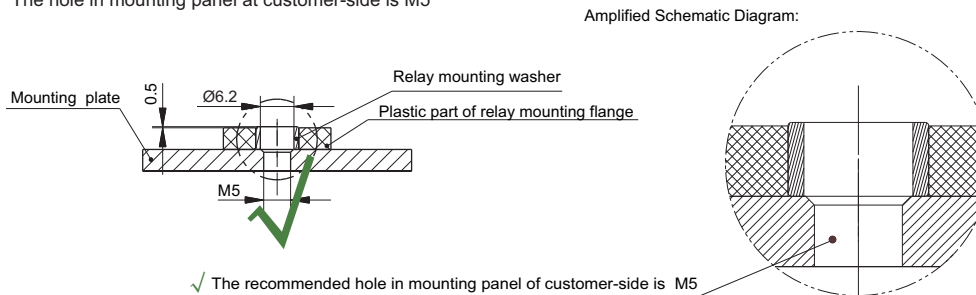
### Unrecommended method

The hole of mounting panel at customer-side is too large.



### Recommended method

The hole in mounting panel at customer-side is M5



When use M5 screw, the thickness and strength of the washer needs to be guaranteed or it may deform and burst the cover.

## Disclaimer

The specification is for reference only. See to "Terminology and Guidelines" for more information. 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.