

HFE80V-200

DIRECT CURRENT RELAY



File No.:E133481

RoHS compliant



Features

- Preferred for micro electric vehicle(low speed vehicle)
- Carrying current 200A continuously at 85°C.
- No polarity on the coil and load sides.
- The electricity safety meets the requirements of IEC 60664-1.

CONTACT DATA

Contact arrangement	1 Form A
Contact resistance ¹⁾	≤1.0mΩ(at 20A)
Contact rating	200A
Mechanical endurance	2 x 10 ⁵ ops
Max. switching voltage	250 VDC
Max. breaking current	400A
Max. switching power	80kW
Electrical endurance ²⁾	Swithing:1 x 10 ⁴ ops(150VDC,40A) ³⁾
	Swithing:3,000ops(150VDC,200A) ³⁾
Current carrying ⁴⁾ capacity	200A:Cont.
	300A:5min
	400A:30s
	800A:10s
	1600A:1s

Notes: 1) The above values are the initial values.

2) Unless otherwise specified, the temperature of eletrical endurance is at 23°C and the on-off ratio is 0.6s:5.4s.

The coil was not connected to the surge suppression device during the test. Please note that the use of a well-connected diode will greatly increase the release time of the relay, resulting in a reduced lifetime.

3) Load condition for UL certified.

4) Ambient temperature is at 85°C and cross section area of wire is 60mm² min. See Fig. Endurance Capacity Curve for more information.

COIL

23°C

Rated Voltage VDC	Pick-up Voltage VDC	Drop-out Voltage VDC	Coil power W
12	≤9	≥1	6
24	≤18	≥2	6

CHARACTERISTICS

Insulation resistance		1000MΩ(500 VDC)
Dielectric strength	Between coil & contacts	4000 VAC 1min
	Between open contacts	3000 VAC 1min
Operate time (at rated volt.)		≤30ms
Release time (at rated volt.)		≤10ms
Shock resistance	Functional	196m/s ²
	Destructive	490m/s ²
Vibration resistance		10Hz ~ 500Hz 49m/s ²
Humidity		5% ~ 85% RH
Ambient temperature		-40°C ~ 85°C
Load terminal structure		M6 Screw terminal female
Unit weight		Approx.370g
Outline Dimensions		88.0 x 47.7 x 88.0mm
		81.0 x 47.8 x 87.4mm

Notes: Above is the initial vale in the room temperature



HONGFA RELAY

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

2022 Rev. 1.00

ORDERING INFORMATION

Type	HFE80	V	-200/ 150-	12-	H	T	C	5	Y	(XXX)
Application	V: Vehicle									
Contact rating	200: 200A									
Load voltage	150: 150 VDC 200: 200 VDC									
Coil voltage	12: 12VDC 24: 24 VDC									
Contact arrangement	H: 1 Form A									
Contact material	T: AgSnO ₂									
Coil terminal structure	C: Connector									
Load terminal structure	5: Screw terminal female									
Mounting	Nil: Vertical mounting Y: Horizontal mounting									
Special code ¹⁾	XXX: Customer special requirement Nil: Standard									

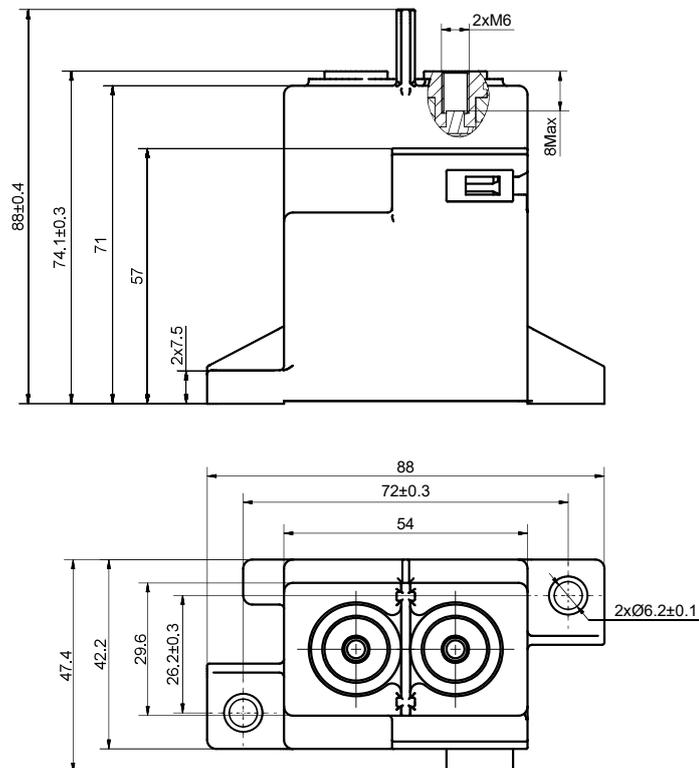
Notes: 1) The customer special requirement express as special code after evaluating by Hongfa.

OUTLINE DIMENSIONS, MOUNTING HOLE, TERMINAL ARRANGEMENT

Unit: mm

Outline Dimensions

HFE80V-200/XXX-XX-HTC5

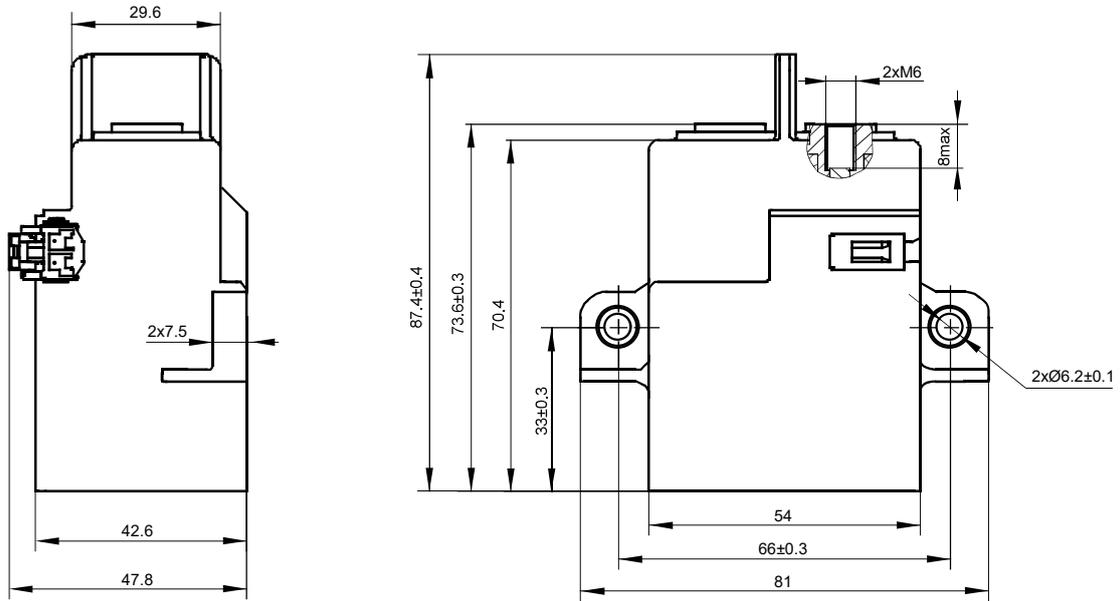


OUTLINE DIMENSIONS, MOUNTING HOLE, TERMINAL ARRANGEMENT

Unit: mm

Outline Dimensions

HFE80V-200/XXX-XX-HTC5Y

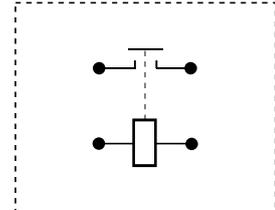
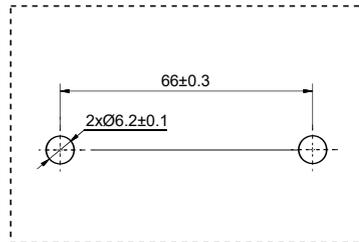
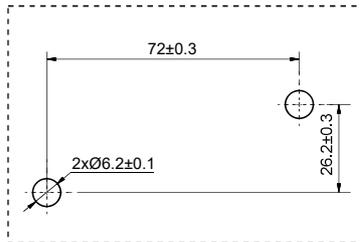


Mounting Hole

Terminal Arrangement

Vertical mounting

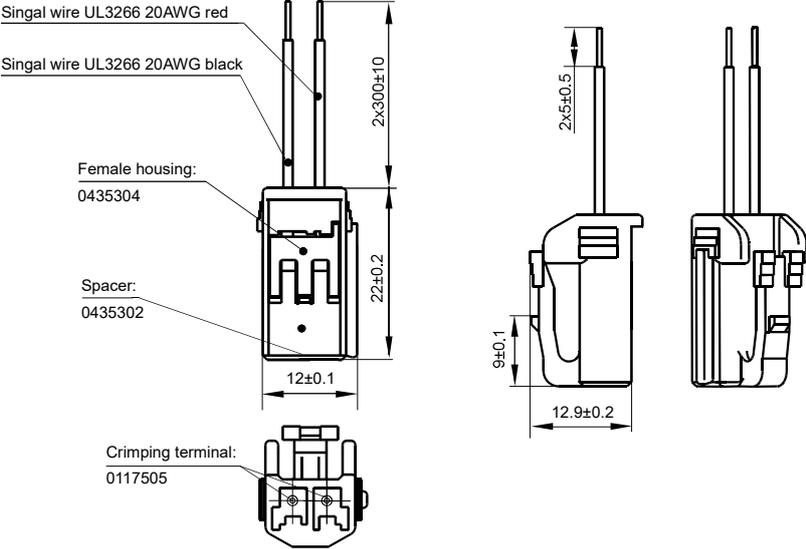
Horizontal mounting



Note: No polarity on the load and coil sides.

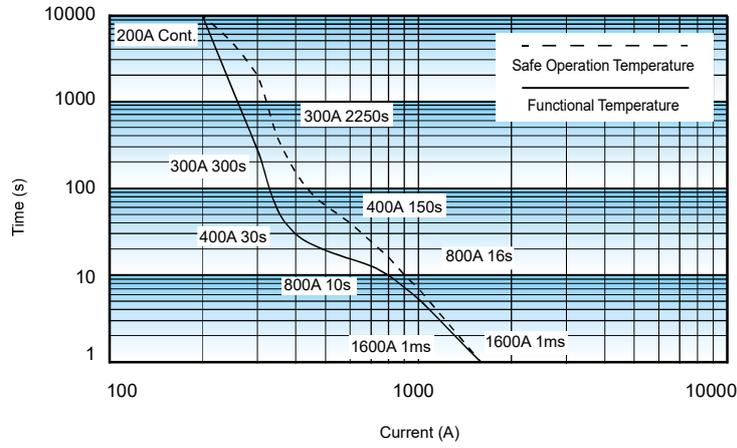
C:Connector

(Configured by customers:THB 0435 series, Yazaki 7283-1020)



CHARACTERISTIC CURVES

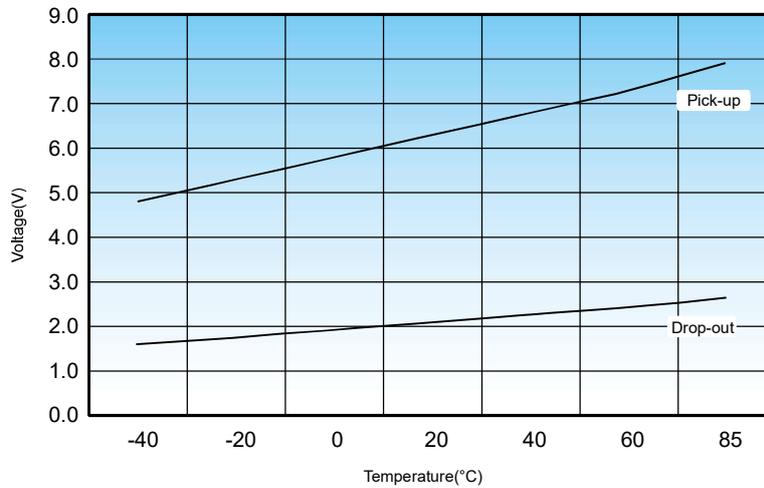
Endurance Capacity Curve



Notes:

1. The upper limit of safe operation temperature and functional temperature are 180°C and 130°C respectively.
2. If the product needs to be operated for a long time, the upper temperature limit should not exceed 130°C.
3. The ambient temperature is 85°C, and the cross-sectional area of the wire is $\geq 60\text{mm}^2$.
4. When the current is $\geq 1600\text{A}$, the relay is likely to weld without fire or explosion.

Pick-up Voltage / Drop-out Voltage Curve



CAUTIONS

1. In case of loosening, please use washer when mounting the relay with M5 screw, and the torque shall be within 3N·m to 4N·m. The screw tightening torque at terminals shall be within 6N·m to 8N·m. The torque beyond the range may cause damage.

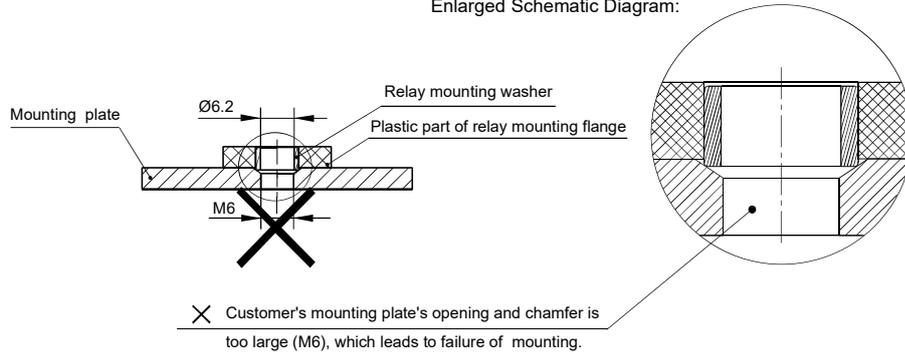
Mounting for load terminal				Mounting for relay body	
Mounting way	Torque requirement	Hole dia. of copper bus bar	Thickness of copper bus bar	Mounting way	Torque requirement
M6 Screw	6N·m ~ 8N·m	Ø6.0mm~Ø6.5mm	2mm~3mm	M5 Screw	3N·m ~ 4N·m

- Relay terminal lock vertically, please pre-lock first and then lock when installing, repeat locking is not recommended.
- When the customer uses special crews and nuts, such as nylok, need to communicate and confirm with Hongfa.
- When the customer has special installation requirement, such as upside down, multi busbar connection, need to communicate and confirm with Hongfa.
- Be careful that oils and foreign matter do not stick to the main terminal part and please use the wire with min. cross section area 60mm² min, otherwise the terminal parts may have abnormal heating.
6. Cautions of mounting for relay body:

Unrecommended method

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

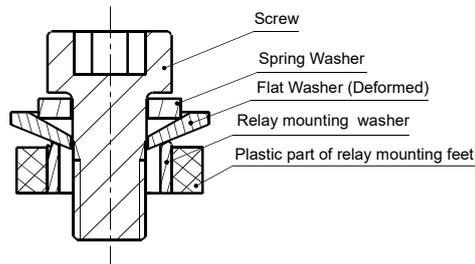
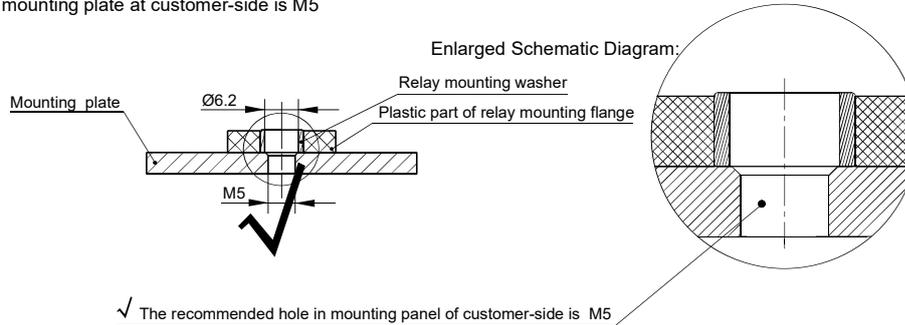
Enlarged Schematic Diagram:



Recommended method

The hole in mounting plate at customer-side is M5

Enlarged Schematic Diagram:



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.

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