HFE82V-200D

DIRECT CURRENT RELAY



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Features

- Ceramic brazing sealed technology guarantees no risk of arc leaking and ensures no fire or explosion.
- Filled with gas (mostly hydrogen) to effectively prevent the oxidation burnt when exposed to electricity; the contact resistance is low and stable, and the parts exposed to electricity can meet IP67 protection level.
- Carrying current 200A continuously at 85°C.
- Insulation resistance is 1000MΩ(1000 VDC), and dielectric strength between the coil and contacts is 4kV, which meets the requirements of IEC 60664-1.

RoHS compliant

CONTACT DATA						
Contact arrangement		1 Form A				
Contact resistance	≤0.5mΩ(at 200A)					
Contact rating		200A				
Mechanical endurance		2x10⁵ops				
	Type 450V	Type 750V				
Max. switching voltage	450 VDC	750 VDC				
Max. breaking current	1200A(300 VDC) 1op	1200A(300 VDC) 1op				
Max. switching power	180kW	300kW				
Electrical endurance 1)	Making:1.5x10 ⁴ ops (22.5 VDC, τ =1ms, Inrush400A, Steady200A)	Switching:100ops (750 VDC, 200A)				
	Switching:800ops (450 VDC, 200A)					
	Switching:100ops (450 VDC, -200A)					
	Breaking:1ops (300 VDC, 1200A)					
	200A:Cont.					
Current carrying ²⁾ capacity	250A:2h					
	300A:10min					
	600A:2min					
	900A:20s					

Notes: 1) Unless otherwise specified, the temperature of eletrical endurance is at 23°C and the on-off ratio is 0.6s:5.4s.

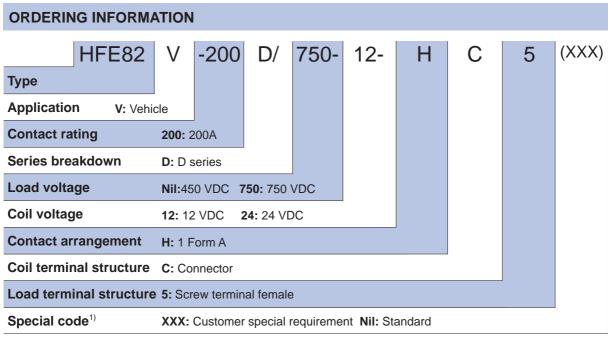
The coil was not connected to the surge suppression device during the test. Please note that the use of a well-connected diode will greatly increase the release time of the relay, resulting in a reduced lifetime.

2) 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	5.5		
24	≤18	≥2	5.5		

CHARACTERISTICS							
CHAR	ACTERISTICS	T					
Insulation resistance		1000MΩ(1000 VDC)					
Dielectric strength	Between coil & contacts	4000 VAC 1m					
	Between open contacts	3000 VAC 1mi					
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.280g					
Outline Dimensions		78.7x36.0x72.0mm					

Notes:The above values are the initial values measured at room temperature.



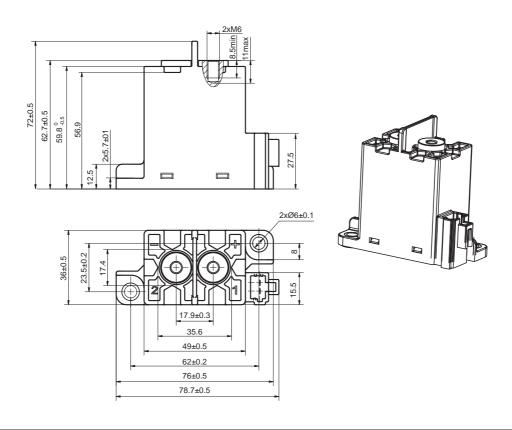
Notes: 1) The customer special requirement express as special code after evaluating by Hongfa.

OUTLINE DIMENSIONS, MOUNTING HOLE, TERMINAL ARRANGEMENT

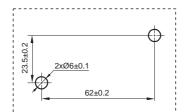
Unit: mm

Outline Dimensions

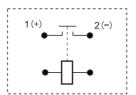
HFE82V-200D/XXX-XX-HC5



Mounting Hole



Terminal Arrangement



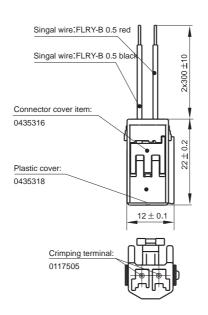
Note: The load side has polarity.

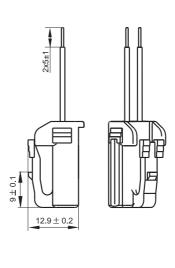
No polarity on the coil side.

WIRING DIAGRAM Unit: mm

C:Connector

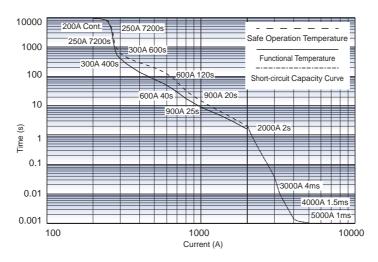
(Configured by customers:Tianhai 0435 series, Yazaki 7283-1020)





CHARACTERISTIC CURVES

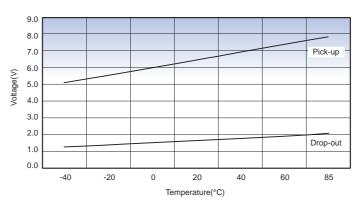
Endurance Capacity Curve



Notes:

- $1. The \ upper \ limit \ of \ safe \ operation \ temperature \ and \ functional \ temperature \ are \ 180^{\circ}C \ and \ 130^{\circ}C \ respectively.$
- 2.If the product needs to be operated for a long time, the upper temperature limit should not exceed 130°C; If the safe operation temperature of 180°C is exceeded, the relay may also catch fire.
- 3. The ambient temperature is 85°C, and the cross sectional area of the wire is \geq 60 mm².
- 4.When the current is ≥2000A, the relay is likely to weld without fire or explosion.
- 5.The dash-dotted line is the short-circuit capacity curve of the relay. when the current is ≥3000A, the contact may bounce without fire or explosion.

Pick-up Voltage / Drop-out Voltage Curve



CAUTIONS

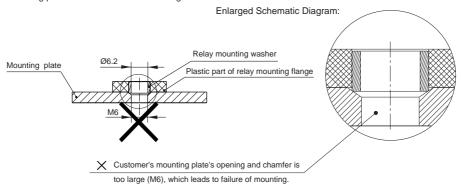
1. In case of loosening, please use washer when mount the relay with M5 screw, and the torque within 3N·m to 4N·m, The screw tightening torque at terminals shall be within 5N·m to 6N·m. The torque beyond the range may cause damage.

Mounting for load terminal			Relay mounting		
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	4mm	M5 Screw	3N·m ~ 4N·m

- 2. 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, otherwise the terminal parts may have abnormal heating.
- 3. Cautions of relay mounting:

Unrecommended method

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



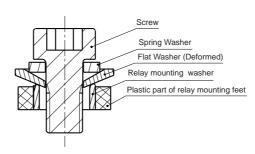
Recommended method

Enlarged Schematic Diagram:

Relay mounting washer

Plastic part of relay mounting flange

The recommended hole in mounting panel of 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.

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