

HF172F-200

SOLAR RELAY



File No.:E133481



File No.:R 50393829



Features

- 50A switching capability,200A loading current capability
- Applicable to solar photovoltaic inverter
- 4.0 mm contact gap
- Low coil holding voltage contributes to saving energy of equipment
- UL insulation system: Class F

RoHS compliant

CONTACT DATA

Contact arrangement	1A
Contact resistance ⁽¹⁾	1mΩ max.(6VDC 20A)
Contact material	AgSnO ₂
Contact rating (Res. load)	Making 50A, carrying 200A, breaking 50A 830VAC
Max. switching voltage	830VAC
Max. switching current	50A
Max. switching power	41500VA
Mechanical endurance	1×10 ⁶ OPS
Electrical endurance	3×10 ⁴ OPS (85°C, 1s on 9s off, Making 50A, carrying 200A, breaking 50A, 830VAC, Res. load)

Notes: 1) The data shown above are initial values.

COIL

Coil power	Approx. 3W
Holding voltage	40% to 100%UN(at 25°C) 50% to 60%UN(at 85°C)

Notes: 1)The coil holding voltage is the voltage applied to coil 100ms after the rated voltage.
2)To avoid overheating and burning, the coil can not be consistently applied to with voltage larger than maximum holding voltage.

COIL DATA

at 23°C

Nominal Voltage VDC	Pick-up Voltage VDC max.	Drop-out Voltage VDC min.	Max. Voltage VDC *	Coil Resistance Ω
6	4.2	0.6	7.2	12× (1±10%)
9	6.3	0.9	10.8	27× (1±10%)
12	8.4	1.2	14.4	48× (1±10%)
24	16.8	2.4	28.8	192× (1±10%)

Notes: *Maximum voltage refers to the maximum voltage which relay coil could endure in a short period of time.

CHARACTERISTICS

Insulation resistance	1000MΩ(500VDC)	
Dielectric strength	Between open contacts	2000VAC 1min
	Between coil & contacts	5000VAC 1min
Surge Voltage (Between coil & Main contacts)	10kV(1.2/50μs)	
Operate time (at rated. volt.)	30ms max.	
Release time (at rated. volt.)	10ms max.	
Temperature rise	70K max. (Contact load current 200A, Applied voltage of coil 100% rated voltage for 100ms holding voltage of coil 50% to 60% rated voltage, at 85°C)	
Shock resistance	Functional	98m/s ²
	Destructive	980m/s ²
Vibration resistance	10Hz to 55Hz 1.5mm DA	
Humidity	5% to 85%RH	
Ambient temperature	-40°C to 85°C (Apply holding voltage to coil)	
Termination	PCB	
Unit weight	Approx. 215g	
Construction	Flux proofed	

Notes: 1) The data shown above are initial values.

SAFETY APPROVAL RATINGS

UL/CUL	Making 50A, carrying 200A, breaking 50A 830VAC, 85°C, 3x10 ⁴ Ops, Res. load
TUV	Making 50A, carrying 200A, breaking 50A 830VAC, 85°C, 3x10 ⁴ Ops, Res. load



HONGFA RELAY

ISO9001, IATF16949, ISO14001, ISO45001, IECQ QC 080000, ISO/IEC 27001 CERTIFIED

2023 Rev. 1.00

ORDERING INFORMATION

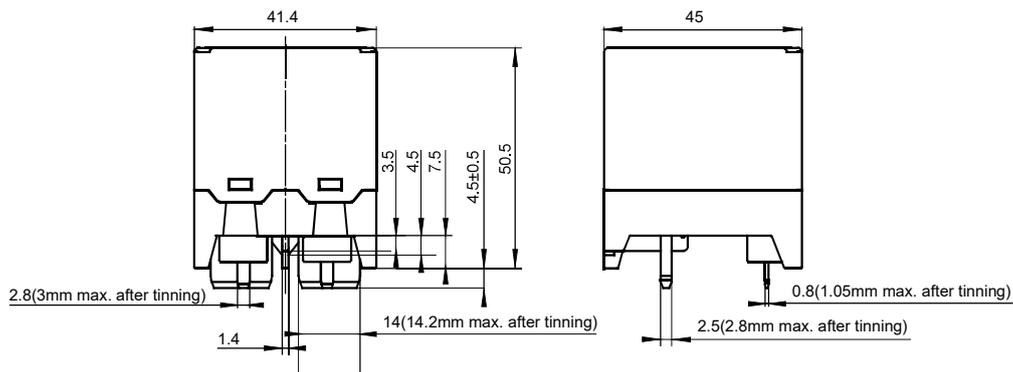
Type	HF172F-200 /	12	-H	T	F	(XXX)
Coil voltage	6,9,12,24VDC					
Contact arrangement	H: 1 Form A					
Contact material	T: AgSnO ₂					
Insulation standard	F: Class F					
Special code ⁽¹⁾	XXX: Customer special requirement			Nil: Standard		

- Notes:**
- 1) When there is surge current in the load, it is recommended to use AgSnO₂ contact material and confirm it in actual use.
 - 2) The customer special requirement express as special code after evaluating by Hongfa.
 - 3) Water clearing or surface process is not suggested after the flux-proofed relays are assembled on PCB.
 - 4) Please avoid using the relay in an environment containing organic silicon, otherwise the entry of organic silicon into the relay may acceleration contact failure. If there are harmful substances and elements such as water vapor, H₂S, SO₂, NO₂, Cl, P, etc. In the use of environmental gases, it may lead to increased contact resistance and poor contact during the use of relays. In the above situations, please control the materials or use plastic sealed type and arrange relevant tests to confirm.

OUTLINE DIMENSIONS, WIRING DIAGRAM AND PC BOARD LAYOUT

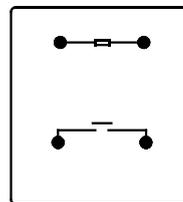
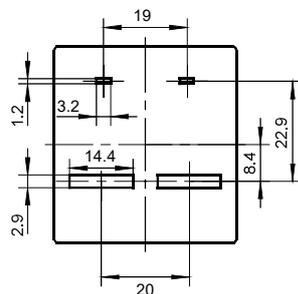
Unit: mm

Outline Dimensions



PCB Layout
(Bottom view)

Wiring Diagram
(Bottom view)



- Remark: 1) In case of no tolerance shown in outline dimension: outline dimension ≤ 1mm, tolerance should be ±0.2mm; outline dimension > 1mm and ≤ 5mm, tolerance should be ±0.3mm; outline dimension > 5mm, tolerance should be ±0.4mm.
2) The tolerance without indicating for PCB layout is always ±0.1mm.

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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