HF172F-200 SOLAR RELAY

c UL us
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	Standard:1×10^6OPS High power consumption type:3×10^5OPS
Electrical endurance	**Flux proofed:** 3×10^4 OPS (85˚C,1s on 9s off,Making50A,carrying 200A,breaking 50A,830VAC,Res. load) **Plastic sealed:** 3×10^4 OPS (85˚C,1s on 9s off,Making50A,carrying 200A,breaking 30A,830VAC,Res. load)

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

COIL

Coil power	Standard: Approx.3W High power consumption type: Approx.5W
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.

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, Plastic sealed

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

COIL DATA

at 23˚C

Standard:

Nominal Voltage VDC	Pick-up Voltage VDC[1)] max.	Drop-out Voltage VDC[1)] min.	Max. Voltage VDC[2)]	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%)

High-power type:

Nominal Voltage VDC	Pick-up Voltage VDC[1)] max.	Drop-out Voltage VDC[1)] min.	Max. Voltage VDC[2)]	Coil Resistance Ω
6	4.5	0.3	7.2	7.2×(1±10%)
9	6.75	0.45	10.8	16.2×(1±10%)
12	9	0.6	14.4	28.8×(1±10%)
24	18	1.2	28.8	115.2×(1±10%)

Notes: 1) The data shown above are initial values.
2)*Maximum voltage refers to the Maximum voltage which relay coil could endure in a short period of time.

SAFETY APPROVAL RATINGS

UL/CUL	Making 50A, carrying 200A, breaking 50A, 830VAC, at 85˚C
TÜV	Making 50A, carrying 200A, breaking 30A, 830VAC, at 85˚C

Notes: 1) All values unspecified are at room temperature.
2) Only some typical rating are listed above.If more details are required,please contact us.

ORDERING INFORMATION

HF172F-200 /	12	-H	S	P	T	F	（XXX）

Type	
Coil voltage	6,9,12,24VDC
Contact arrangement	**H:** 1 Form A
Construction	**S:** Plastic sealed **Nil:** Flux proofed
Coil Power Consumption	**P:** High power consumption type **Nil:** Standard
Contact material[1)]	**T:** $AgSnO_2$
Insulation standard	**F:** Class F
Special code[2)]	**XXX:** Customer special requirement **Nil:** Standard **239:** Vented type

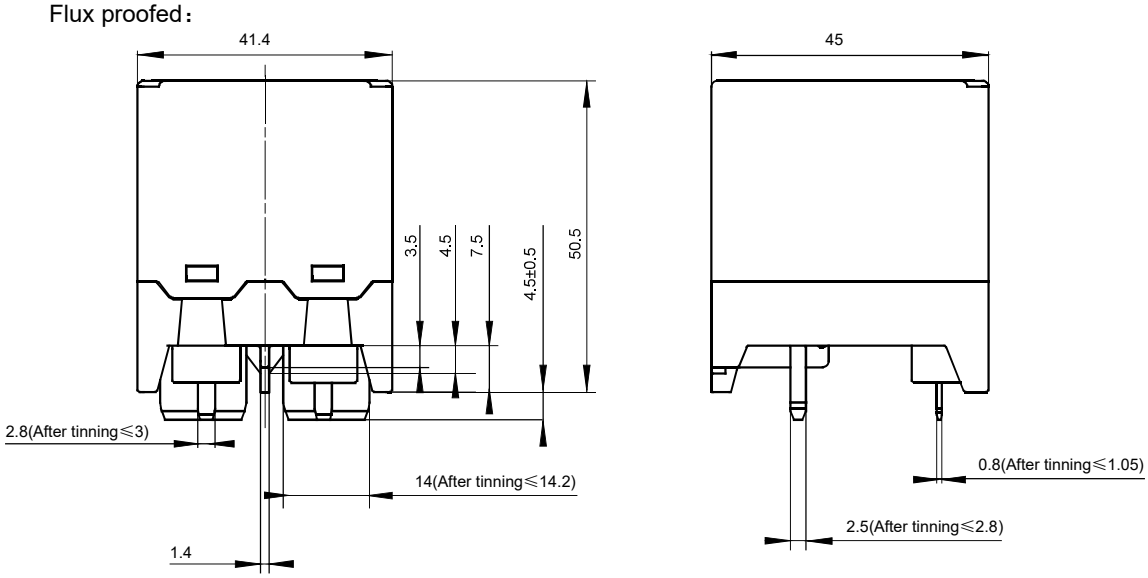
Notes: 1) When there is surge current in the load, it is recommended to use $AgSnO_2$ contact material and confirm it in actual use.
2) The customer special requirement express as special code after evaluating by Hongfa.
3) Water clearing or surface process is not suggested after the flux-proofed relays 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 ontact failure.If there are harmful substances and elements such as water vapor, H_2S, SO_2, NO_2 ,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

Flux proofed：

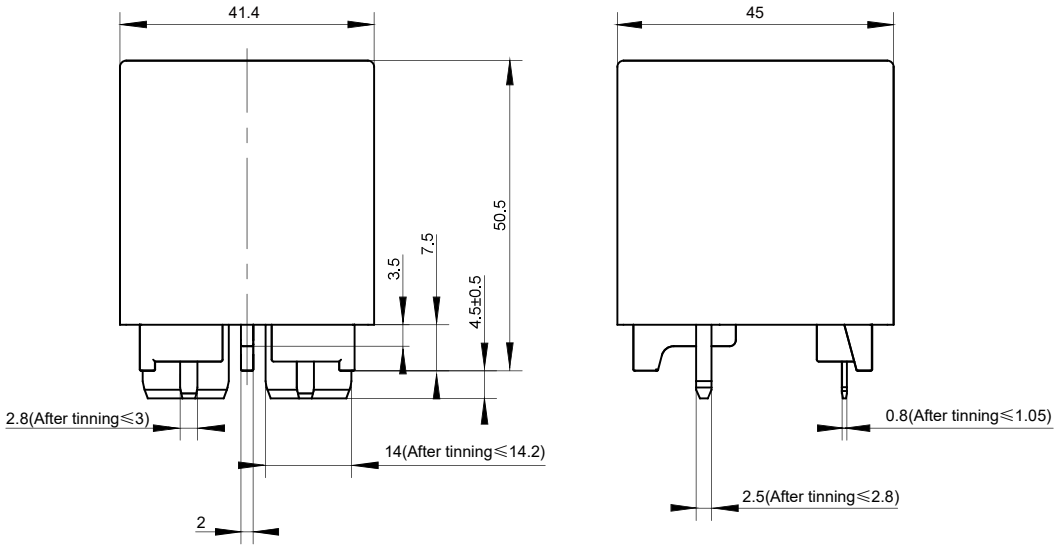


OUTLINE DIMENSIONS, WIRING DIAGRAM AND PC BOARD LAYOUT

Unit: mm

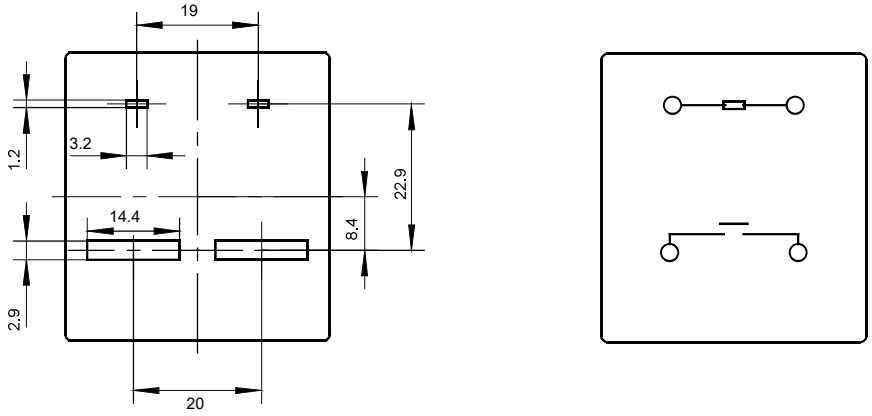
Outline Dimensions

Plastic sealed:



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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