HF167F-270 SOLAR RELAY

File No.: E133481

File No.: R50374273

Features

- 270A switching 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
- Available with heat sink specifications for better heat dissipation

RoHS compliant

CONTACT DATA

Contact arrangement	1A
Contact resistance(initial)	1mΩ max.(6VDC 20A)
Contact material	AgNi, $AgSnO_2$
Contact rating (Res. load)	Making 50A, carrying 270A, breaking 50A, 1000VAC
Max. switching voltage	1000VAC
Max. switching current	270A
Max. switching power	270000VA
Mechanical endurance	3×10^5OPS
Electrical endurance	AgNi: ≥1×10^4OPS (85℃, 1s on 9s off, Making 50A, carrying 270A,breaking 50A, 1000VAC, Resistive load) $AgSnO_2$: ≥3×10^4OPS (85℃, 1s on 9s off, Making 50A, carrying 270A,breaking 50A, 1000VAC, Resistive load)

CHARACTERISTICS

Insulation resistance		1000 MΩ (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 270A, Rated voltage is reduced to holding voltage after 100ms of excitation, at 85℃)
Shock resistance	Functional	98m/s²
	Destructive	980m/s²
Vibration resistance		10Hz to 55Hz 1.0mm DA
Humidity		5 % to 85 % RH
Ambient temperature		-40℃ to 85℃ (Coil rated voltage is reduced to holding voltage after 100ms of excitation)
Termination		PCB
Unit weight		Approx.265g
Construction		Flux proofed

Notes: The data shown above are initial values.

COIL

Coil power	High power consumption type: Approx.5W
Holding voltage	40% to 100%UN(at 23℃)
	50% to 60%UN(at 85℃)

Notes: 1)The coil holding voltage is the voltage applied to coil 200ms 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 23℃

High power consumption type

Nominal Voltage VDC	Pick-up Voltage VDC max.	Drop-out Voltage VDC min.	Max. Voltage VDC[1)]	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: Maximun voltage refers to the maximun voltage which relay coil could endure in a short period of time.

SAFETY APPROVAL RATINGS

UL/CUL	AgNi	Making 50A, carrying 270A, breaking 50A, 1000VAC, 85℃, 10000OPS, Resistive load
	$AgSnO_2$	Making 50A, carrying 270A, breaking 50A, 1000VAC, 85℃, 30000OPS, Resistive load 270A 1000VAC, 85℃, 100OPS, Resistive load
TUV	AgNi	Making 50A, carrying 270A, breaking 50A, 1000VAC, 85℃, 10000OPS, Resistive load
	$AgSnO_2$	Making 50A, carrying 270A, breaking 50A, 1000VAC, 85℃, 30000OPS, Resistive load 270A 1000VAC, 85℃, 100OPS, Resistive load

ORDERING INFORMATION

HF167F-270/	12	-H	P	3	F	L	（XXX）

Type	
Coil voltage	6,9,12,24VDC
Contact arrangement	**H:** 1 Form A
Coil type	**P:** Coil power consumption 5W
Contact material	**3:** AgNi **T:** $AgSnO_2$
Insulation standard	**F:** Class F
Special Requirement	**Nil:** Standard type **L:** With heat sink
Special code	**XXX:** Customer special requirement **Nil:** Standard type

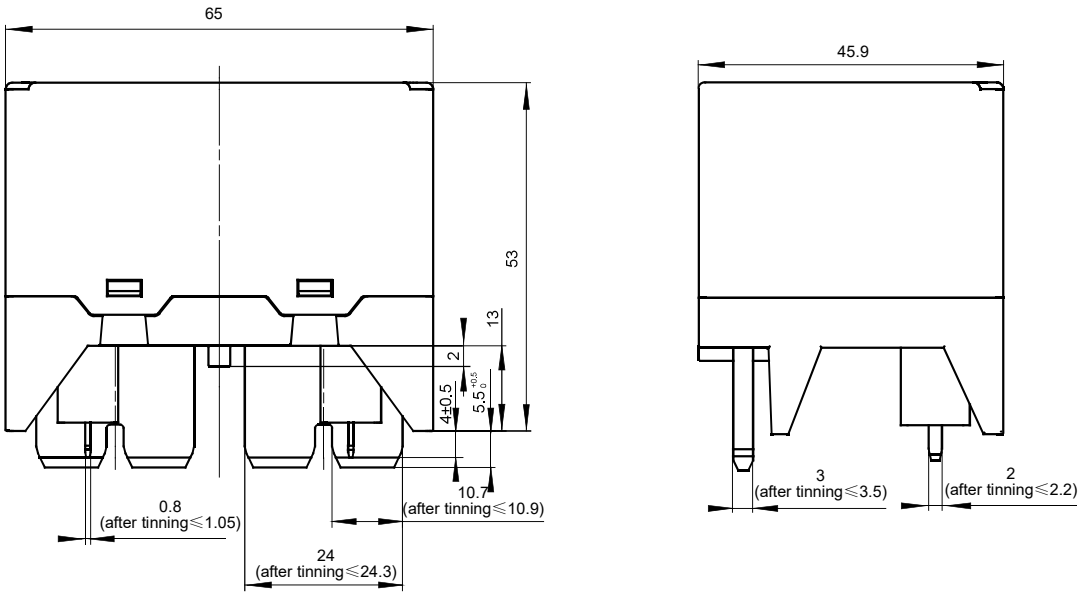
Notes: 1) Flux-proofed relays can not be used inthe environment with pollutants like H_2S, SO_2, NO_2, dust, etc.
2) Water clearing or surface process is not suggested after the flux-proofed relays are assembled on PCB.
3) The customer special requirement express as special code after evaluating by Hongfa.

OUTLINE DIMENSIONS, WIRING DIAGRAM AND PC BOARD LAYOUT

Unit: mm

Outline Dimensions

Without heat sink type：

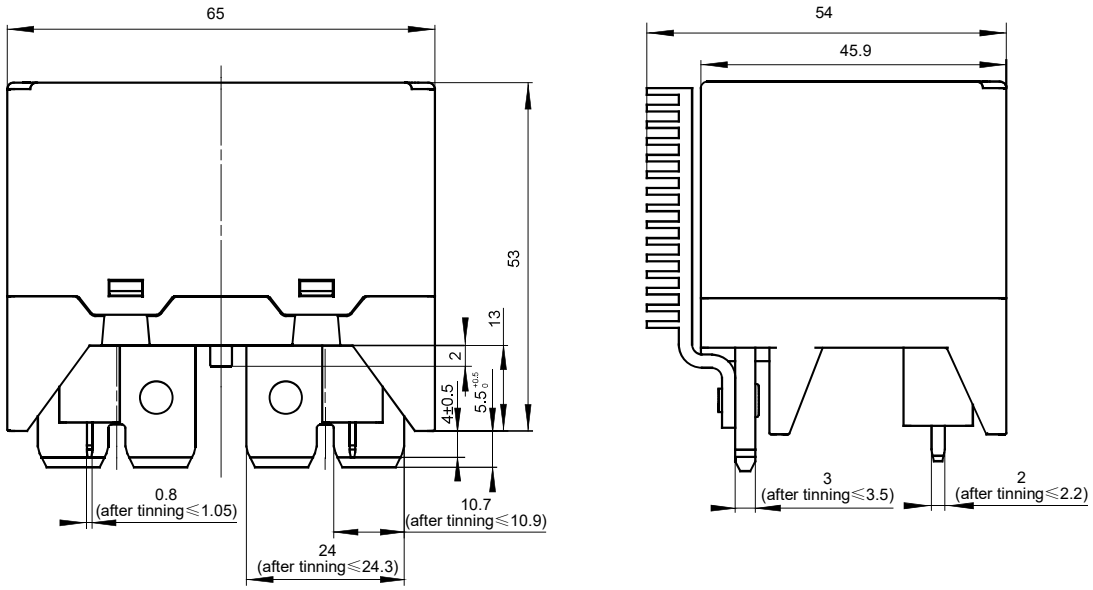


OUTLINE DIMENSIONS, WIRING DIAGRAM AND PC BOARD LAYOUT

Unit: mm

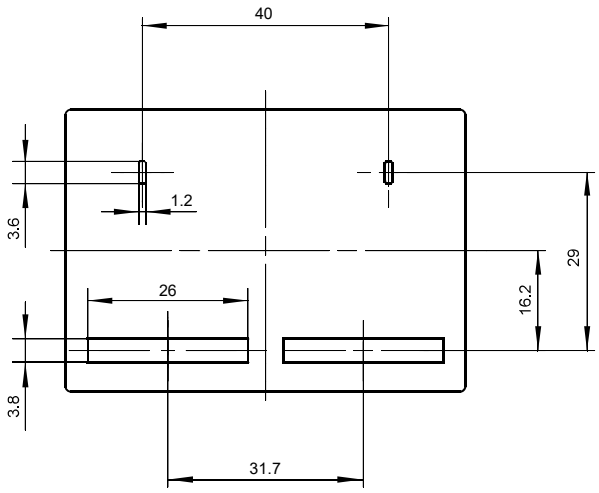
Outline Dimensions

With heat sink type：



PCB Layout

(Bottom view)

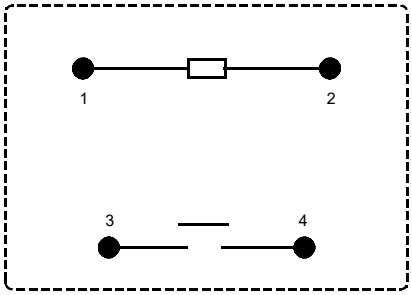


OUTLINE DIMENSIONS, WIRING DIAGRAM AND PC BOARD LAYOUT

Unit: mm

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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