HF167F-G SOLAR RELAY

File No.: E133481

File No.: R 50374273



Features

- 55A switching capability
  120A loading current capability
- Applicable to solar photovoltaic inverter
- 3.6 mm contact gap
- Low coil holding voltage contributes to saving energy of equipment
- UL insulation system: Class F

RoHS compliant

CONTACT DATA

Contact gap	3.6mm
Contact arrangement	1A
Contact resistance(initial)	1mΩ max.(6VDC 20A)
Contact material	$AgSnO_2$,AgNi
Contact rating (Res. load)	Making 55A carrying 120A breaking 55A 800VAC
Mechanical endurance	800VAC
Max. switching power	55A
Max. switching voltage	44000VA
Max. switching current	1×10^6OPS
Electrical endurance	6×10^3OPS Making 55A, carrying 120A, breaking 55A, 800VAC, Resistive load, at 85°C, 1s on 9s off)

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

COIL

Coil power	Approx. 2.5W
Holding voltage	40% to 100% U_N (at 23°C) 50% to 60%U_N (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 (at 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 120A, 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/s²
	Destructive	980m/s²
Vibration resistance		10Hz to 55Hz 1.0mm DA
Humidity		5% to 85% RH
Ambient temperature		-40°C to 85°C (Apply holding voltage to coil)
Termination		PCB
Unit weight		Approx. 135g
Construction		Flux proofed

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

COIL DATA at 23°C

Nominal Voltage VDC	Pick-up Voltage VDC max.1)	Drop-out Voltage VDC min.1)	Max. Voltage VDC2)	Coil Resistance Ω
6	4.2	0.6	7.2	14.4x (1±10%)
9	6.3	0.9	10.8	32.4 x (1±10%)
12	8.4	1.2	14.4	57.6x (1±10%)
24	16.8	2.4	28.8	230.4 x (1±10%)

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

SAFETY APPROVAL RATINGS

UL/CUL	$AgSnO_2$	Making 55A, carrying 120A,breaking 55A, 800VAC, 85°C, General use
	AgNi	Making 55A, carrying 120A,breaking 55A, 800VAC, 85°C, Resistive
TÜV	$AgSnO_2$	Making 55A, carrying 120A,breaking 55A, 800VAC, 85°C, Resistive
	AgNi	

Notes: 1) All values unspecified are at room temperature.
2) Only typical loads are listed above. Other load specifications can be available upon request.

ORDERING INFORMATION

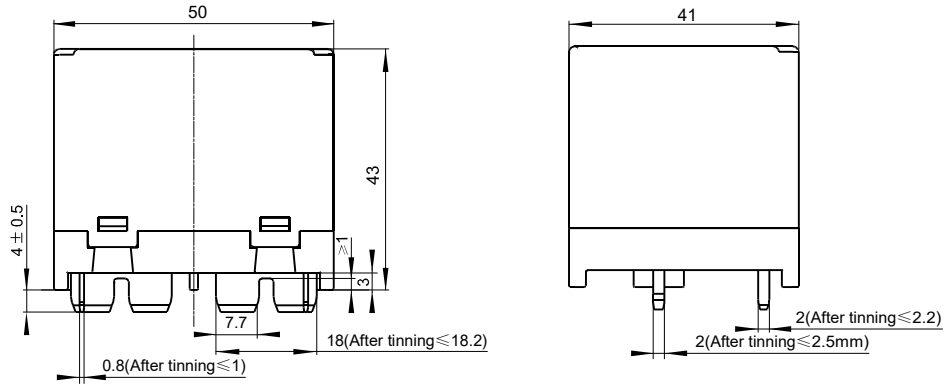
	HF167F-G/	12	-H	T	F	(XXX)
Type						
Coil voltage	6, 9, 12, 24VDC					
Contact arrangement	**H:**1 Form A					
Contact material[1)]	**T:** $AgSnO_2$ **Nil:** AgNi					
Insulation standard	**F:** Class F					
Special code[2)]	**XXX:** Customer special requirement **Nil:** Standard					

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 contact failure.If there are harmfu 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.

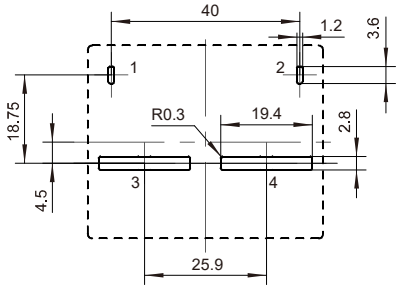
OUTLINE DIMENSIONS, WIRING DIAGRAM AND PC BOARD LAYOUT

Unit: mm

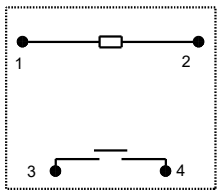
Outline Dimensions



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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