HF165F SOLAR RELAY

Pending

Pending

Features

- 35A switching capitable
- Applicable to inverter used for photovoltaic power generation systems
- Ideal for UPS
- 1.8mm contact gap（compliant to European Photovoltaic Standard VDE0126）
- Product in accordance to IEC 60335 available.
- The clearance distance between coil and contacts: 4mm, the creepage distance: 5mm.
- Low coil holding voltage contributes to saving energy of equipment.
- UL insulation system: Class F
- Environmental friendly product (RoHS compliant)
- Outline Dimensions: (32.2 x 27.4 x 19.4) mm

CONTACT DATA

Contact arrangement	1A
Contact resistance	100mΩ max.(at 1A 6VDC)
Contact material	$AgSnO_2$, AgNi
Contact rating	Resistive: 35A 250VAC Inductive: 35A 277VAC (cosø=0.8) 1s:9s
Max. switching voltage	277VAC
Max. switching current	35A
Max. switching power	9695VA
Mechanical endurance	1 x 10^6OPS
Electrical endurance	3 x 10^4OPS (See approval reports for more details)

CHARACTERISTICS

Insulation resistance		1000MΩ (at 500VDC)
Dielectric strength	Between coil & contacts	4000VAC 1min
	Between open contacts	2500VAC 1min
Surge voltage (between coil & contacts)		6kV (1.2 x 50μs)
Operate time (at nomi. volt.)		15ms max.
Release time (at nomi. volt.)		15ms max.
Temperature rise (at nomi. volt.)		70K max. (Contact load current 35A, 50% of rated voltage excitation, at 85°C)
Shock resistance	Functional	98m/s²
	Destructive	980m/s²
Vibration resistance		10Hz to 55Hz 1.5mm DA
Ambient temperature		-40°C to 85°C (Apply holding voltage to coil, which is 39% to 50% that of rated voltage)
Humidity		5% to 85% RH
Termination		PCB
Unit weight		Approx. 36g
Construction		Flux proofed

Notes: The data shown above are initial values.

COIL

Coil power	Approx. 2.25W
Holding voltage	35% to 100%UN (at 23°C) 50% to 75%UN (at 85°C)

Notes: 1) The coil holding voltage is the voltage of coil after being applied rated voltage for 100ms.
2) By lower coil holding voltage, the purpose of saving power consumption could be achieved. The magnetic system is designed for this reduced holding power. When the holding voltage was lowered to 39% that of rated voltage, the power consumption could be decreased to approx.350mW. Continuous operation without power reduction is not permitted for ambient temperatures of > 23°C!

COIL DATA at 23°C

Nominal Voltage VDC	Pick-up Voltage VDC max.	Drop-out Voltage VDC min.	Max. Allowable Voltage VDC	Coil Resistance Ω
5	3.75	0.35	5.5	11.1 x (1±10%)
12	9	0.84	13.2	64 x (1±10%)
24	18	1.68	26.4	256 x (1±10%)
48	36	3.36	52.8	1024 x (1±10%)

Notes: The maximum voltage is the voltage value of coil over voltage, which is the instantaneous voltage relay could bear within very short function time period.

SAFETY APPROVAL RATINGS

UL/CUL	35A 250VAC at 85°C 35A 277VAC COSØ =0.8 1s:9s at 85°C
VDE	35A 250VAC at 85°C 35A 277VAC COSØ =0.8 1s:9s at 85°C

Notes: Only some typical ratings are listed above. If more details are required, please contact us.

ORDERING INFORMATION

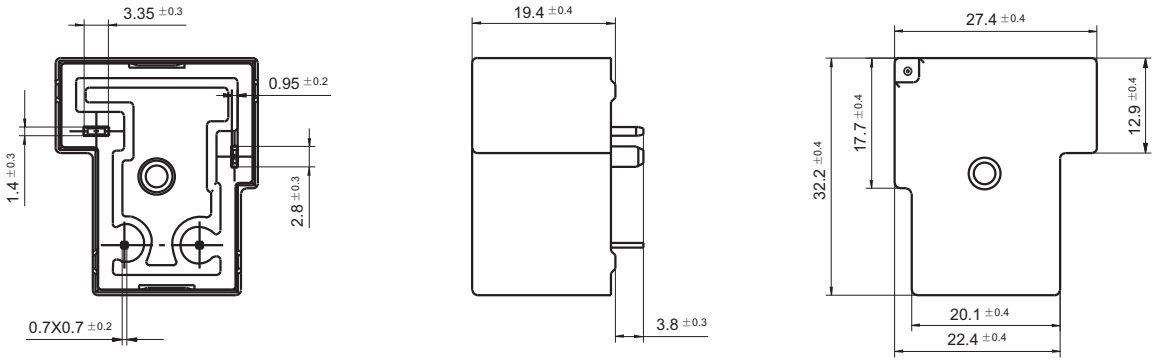
	HF165F /	12	-H	T	(XXX)
Type					
Coil voltage	5, 12, 24, 48VDC				
Contact arrangement	**H:** 1 Form A				
Contact matcrial	**T:** $AgSnO_2$	**Nil:** AgNi			
Customer special code					

OUTLINE DIMENSIONS, WIRING DIAGRAM AND PC BOARD LAYOUT

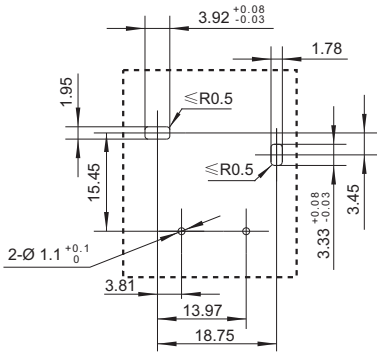
Unit: mm

Outline Dimensions

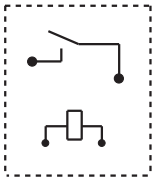
(Bottom view)



PCB Layout (Bottom view)



Wiring Diagram



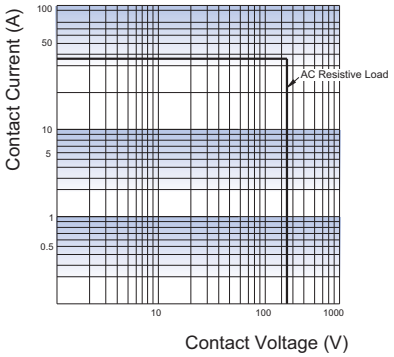
Remark: 1) In case of no tolerance shown in outline dimension: outline dimension ≤1mm, tolerance should be ±0.2mm; outline dimension >1mm and ≤5mm, tolerance should be ±0.3mm; outline dimension >5mm, tolerance should be ±0.4mm.

2) The tolerance without indicating for PCB layout is always ±0.1mm.

(ES) Equipements Scientifiques SA - Département Composants & modules - 127 rue de Buzenval BP 26 - 92380 Garches
Tél. 01 47 95 99 89 - Fax. 01 47 01 16 22 - e-mail: comp@es-france.com - Site Web: www.es-france.com

CHARACTERISTIC CURVES

MAXIMUM SWITCHING POWER



ENDURANCE CURVE