HF165F SOLAR RELAY

File No:E134517

File No:40037289

File No:R 50463438

File No:CQC18002189685
CQC18002202621

Features

- 35A swithing capitable
- Applicable to inverter used for photovoltaic power generation systems
- Ideal for UPS
- Contact category :CC2
- 1.8mm contact gap(compliant to European Photovoltaic Standard VDE0126)
- Product in accordance to IEC 60335 available.
- Low coil hoilding voltage contributes to saving energy of equipment
- UL insulation system: class F

RoHS compliant

CONTACT DATA

Contact arrangement	1A
Voltage drop	Typ.: 15mV(at 10A) Max.: 100mV(at 10A)
Contact material	$AgSnO_2$
Contact rating (Res. load)	Resistive: 35A 250VAC Inductive: 35A 277VAC (cosø=0.8) 1s:9s
Max. switching voltage	277VAC
Max. switching current 1)	35A
Max. switching power	9695VA
Mechanical endurance	1 x 10^6 OPS
Electrical endurance	3 x 10^4 OPS (35A 250VAC, Resistive load, at 85°C, 1s on 9s off)

Notes: 1)The relay connections and wiring have to be designed with an adequate cross setions to ensure the current flow and heat dissipation.

CHARACTERISTICS

Insulation resistance		1000MΩ (at 500VDC)
Dielectric strength	Between coil & contacts	4000VAC 1min
	Between open contacts	2500VAC 1min
Surge voltage (between coil & contacts)		6kV (1.2/50μs)
Operate time (at rated. volt.)		15ms max.
Release time (at rated. volt.)		10ms max.
Temperature rise (at rated. volt.)		70K max.(Contact load current 43A, 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)
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	40% to 110%U_N(at 23°C) 50% to 70%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.

COIL DATA at 23°C

Nominal Voltage VDC 1)	Pick-up Voltage VDC max1)	Drop-out Voltage VDC min1)	Max. Voltage VDC *2)	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: 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	35A 277VAC/250VAC general use 85°C
VDE	35A 250VAC 85°C
TÜV	43A 277VAC/250VAC 85°C Making 10A Carrying 43A Breaking10A 277VAC 85°C
CQC	40A 277VAC/250VAC 60°C 35A 277VAC/250VAC 85°C

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

	HF165F /	12	-H	T	(XXX)
Type					
Coil voltage	5, 12, 24, 48VDC				
Contact arrangement	**H:**1 Form A				
Contact matcrial	**T:** $AgSnO_2$				
Special code[3)]	**XXX:** Customer special requirement		**Nil:** Standard		

Notes: 1) 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,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..

2) When there is surge current in the load, it is recommended to use $AgSnO_2$ contact material and confirm it in actual use.

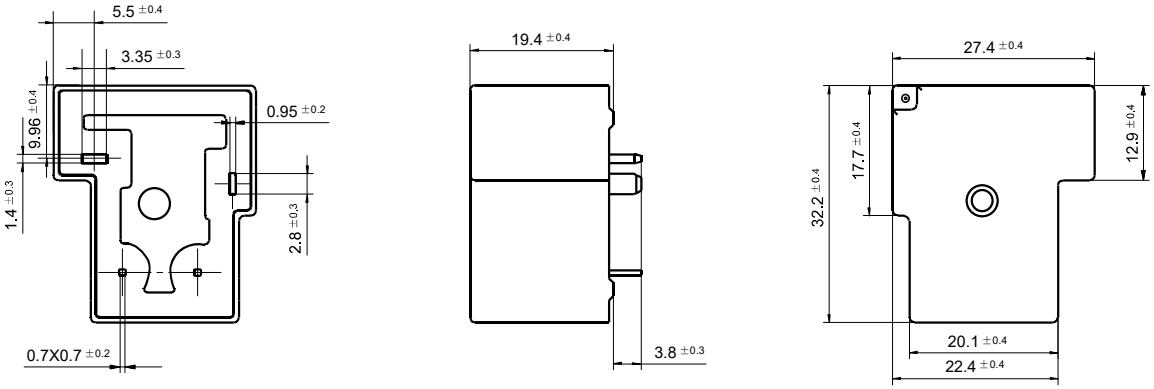
3)The customer special requirement express as special code after evaluating by Hongfa.e.g.(335) stands for product in accordance to IEC 60335-1 (GWT),(704) represents a contact gap of 2.3mm,(A21) indicates that the maximum current carrying capacity of the product is 60A.

4) Water cleaning or surface process is not suggested after the flux-proofed relays are assembled on PCB.

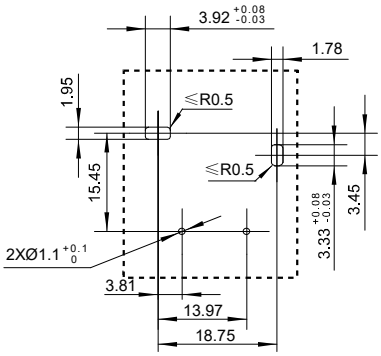
OUTLINE DIMENSIONS, WIRING DIAGRAM AND PC BOARD LAYOUT

Unit: mm

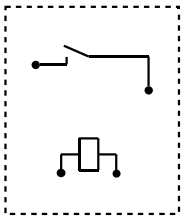
Outline Dimensions



PCB Layout (Bottom view)



Wiring Diagram

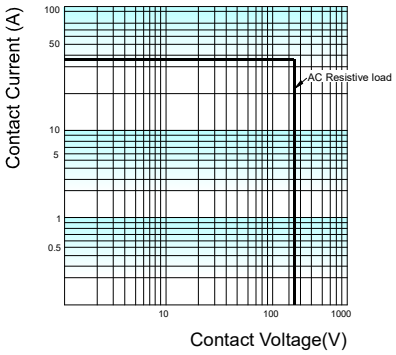


Notes: 1) In case of no tolerance shown in outline dimension: outline dimension ≤1mm, tolerance should be ±0.2mm; outline dimension >1mm and ≤5mm, tolerance should be ±0.3mm; outline dimension >5mm, tolerance should be ±0.4mm.

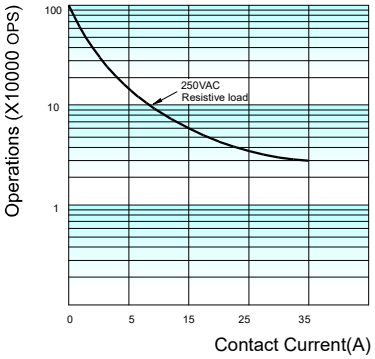
2) The tolerance without indicating for PCB layout is always ±0.1mm.

CHARACTERISTIC CURVES

MAXIMUM SWITCHING POWER



ENDURANCE CURVE



Test conditions:
Resistive load, 250VAC,
Flux proofed, at 85°C, 1s on 9s off