

# HF160F

# MINIATURE HIGH POWER RELAY



File No.: E134517



File No.: 40024142



File No.: CQC12002072207



## Features

- 4.5kV dielectric strength (between coil and contacts)
- Heavy load up to 6250VA
- Ideal for motor switching
- PCB & QC layouts
- UL insulation system: Class F
- Environmental friendly product (RoHS compliant)
- Outline Dimensions: (30.4 x 15.9 x 25.4) mm

## CONTACT DATA

Contact arrangement	1A
Contact resistance	100mΩ max.(at 1A 6VDC)
Contact material	AgSnO <sub>2</sub> , AgCdO
Contact rating	Resistive: 20A 250VAC Motor: 2HP 240VAC
Max. switching voltage	Resistive: 250VAC
Max. switching current	25A
Max. switching power	6250VA
Mechanical endurance	2 x 10 <sup>6</sup> OPS
Electrical endurance	H, HT type: 1 x 10 <sup>5</sup> OPS (20A 250VAC, Resistive load, at 60°C, 1.5s on 1.5s off)

## COIL

Coil power	Approx. 900mW
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## COIL DATA

at 23°C

Nominal Voltage VDC	Pick-up Voltage VDC max.	Drop-out Voltage VDC min.	Max. Voltage VDC*	Coil Resistance Ω
5	3.5	0.5	6.0	27.8 x (1±10%)
12	8.4	1.2	14.4	160 x (1±10%)
24	16.8	2.4	28.8	640 x (1±10%)
48	33.6	4.8	57.6	2560 x (1±10%)

Notes: \* Maximum voltage refers to the maximum voltage which relay coil could endure in a short period of time.

## CHARACTERISTICS

Insulation resistance	1000MΩ (at 500VDC)
Dielectric strength	Between coil & contacts 4500VAC 1min
	Between open contacts 1000VAC 1min
Operate time (at nomi. volt.)	20ms max.
Release time (at nomi. volt.)	10ms max.
Temperature rise (at nomi. volt.)	60K max.
Shock resistance	Functional 196m/s <sup>2</sup>
	Destructive 980m/s <sup>2</sup>
Vibration resistance	10Hz to 55Hz 1.5mm DA
Ambient temperature	-40°C to 85°C
Humidity	5% to 85% RH
Termination	PCB & QC
Unit weight	Approx. 26g
Construction	Flux proofed

Notes: The data shown above are initial values.

## SAFETY APPROVAL RATINGS

UL/CUL	25A 277VAC
	20A 250VAC
	1HP 120VAC
	2HP 240VAC
VDE	25A 250VAC at 55°C
	20A 250VAC at 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.



HONGFA RELAY

ISO9001, ISO/TS16949, ISO14001, OHSAS18001, IECQ QC 080000 CERTIFIED

2015 Rev. 1.00

## ORDERING INFORMATION

Type	HF160F /	12	-H	5	T	(XXX)
Coil voltage	5, 12, 24, 48VDC					
Contact arrangement	H: 1 Form A					
Termination	5: PCB & QC					
Contact material	T: AgSnO <sub>2</sub>		Nil: AgCdO			
Special code <sup>3)</sup>	XXX: Customer special requirement		Nil: Standard			

Notes: 1) Water cleaning or surface process is not suggested after the flux-proofed relays are assembled on PCB.

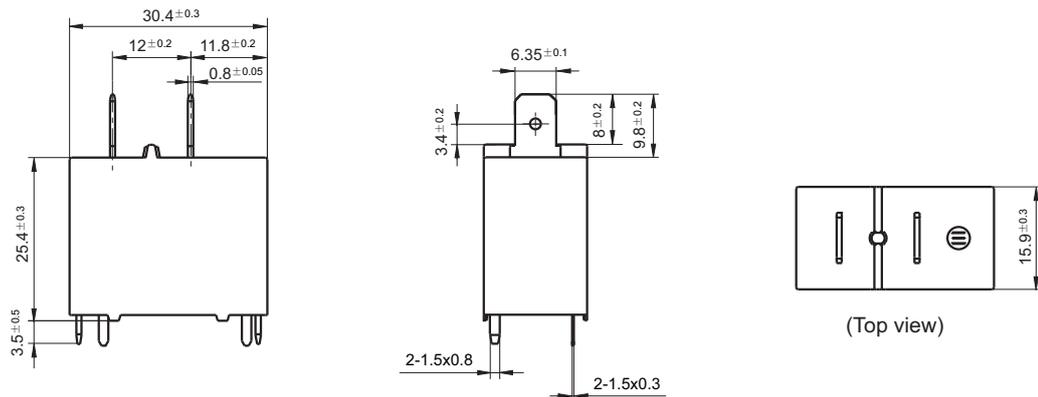
2) Flux-proofed relays can not be used in the environment with pollutants like H<sub>2</sub>S, SO<sub>2</sub>, NO<sub>2</sub>, dust, etc.

3) The customer special requirement express as special code after evaluating by Hongfa.

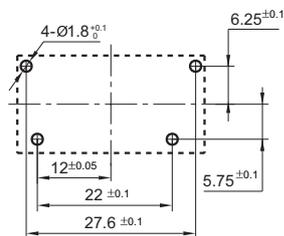
## OUTLINE DIMENSIONS, WIRING DIAGRAM AND PC BOARD LAYOUT

Unit: mm

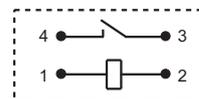
### Outline Dimensions



### PCB Layout (Bottom view)



### Wiring Diagram

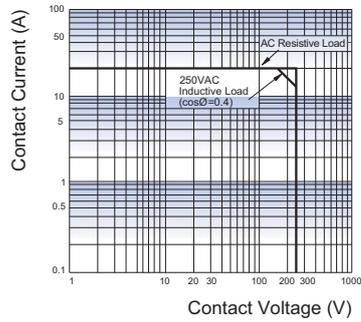


Remark: 1) In case of no tolerance shown in outline dimension: outline dimension  $\leq 1$ mm, tolerance should be  $\pm 0.2$ mm; outline dimension  $> 1$ mm and  $\leq 5$ mm, tolerance should be  $\pm 0.3$ mm; outline dimension  $> 5$ mm, tolerance should be  $\pm 0.4$ mm.

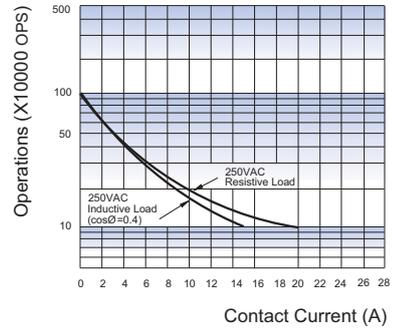
2) The tolerance without indicating for PCB layout is always  $\pm 0.1$ mm.

## CHARACTERISTIC CURVES

MAXIMUM SWITCHING POWER



ENDURANCE CURVE



**Test conditions:**

Room temp., 1s on 9s off.

**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.