

# HF30F

# MINIATURE HIGH POWER RELAY



File No.:E133481



File No.:40055993



File No.:CQC21002317491



## Features

- Max.switching capability 12A
- 4.0kV dielectric strength (between coil and contacts)
- contact arrangement: 2 Form A
- UL insulation system: Class F
- IEC60335-1 compliant products are available
- 2H products with a single contact gap of  $\geq 0.75\text{mm}$
- TV-5/TV-8(2H 072) compliant products are available

RoHS compliant

## CONTACT DATA

Contact arrangement	2A
Contact resistance	100m $\Omega$ max.(at 6VDC 1A)
Contact material	AgSnO <sub>2</sub>
Contact rating	10A 250VAC
Max.switching voltage	277VAC
Max.switching current	12A
Max.switching power	3324VA
Mechanical endurance	1 $\times 10^6$ ops 3 $\times 10^5$ ops(2H 072)
Electrical endurance	1 $\times 10^5$ ops (10A 277VAC Resistive load,Room temp., 1s on 9s off ) 5 $\times 10^4$ ops (10A 277VAC Resistive load,85°C, 1s on 9s off ) 5 $\times 10^4$ ops(2H 072) (10A 250VAC Resistive load,Room temp., 1s on 9s off ) 3 $\times 10^4$ ops(2H 072) (10A 250VAC Resistive load,85°C, 1s on 9s off )

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

## CHARACTERISTICS

Insulation resistance		1000MΩ(500VDC)
Dielectric strength	Between coil & contacts	4000VAC 1min
	Between open contacts	1000VAC 1min 2000VAC 1min(2H 072)
	Between contacts sets	2500VAC 1min
Operate time (at nomi. volt.)		10ms
Release time (at nomi. volt.)		5ms
Shock resistance	Functional	98m/s <sup>2</sup>
	Destructive	980m/s <sup>2</sup>
Vibration resistance		10Hz to 55Hz 1.5mm DA
Humidity		5% to 85%RH
Ambient temperature		-40°C to 85°C
Termination		PCB
Unit weight		Approx. 9g
Construction		Plastic sealed, Flux proofed

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

## COIL

Coil power	Approx.400mW Approx.900mW(2H 072)
------------	--------------------------------------

## COIL DATA

23°C

Nominal Voltage VDC	Pick-up Voltage VDC max.	Drop-out Voltage VDC min	Max. Allowable Voltage VDC	Coil Resistance $\Omega$
3	2.25	0.15	3.9	22.5 $\times$ (1 $\pm$ 10%)
5	3.75	0.25	6.5	62.5 $\times$ (1 $\pm$ 10%)
6	4.5	0.30	7.8	90 $\times$ (1 $\pm$ 10%)
9	6.75	0.45	11.7	202 $\times$ (1 $\pm$ 10%)
12	9.00	0.60	15.6	360 $\times$ (1 $\pm$ 10%)
18	13.5	0.90	23.4	810 $\times$ (1 $\pm$ 10%)
24	18.0	1.20	31.2	1440 $\times$ (1 $\pm$ 10%)
48	36.0	2.40	62.4	5760 $\times$ (1 $\pm$ 10%)

## 2H 072

Nominal Voltage VDC	Pick-up Voltage VDC max.	Drop-out Voltage VDC min	Max. Allowable Voltage VDC	Coil Resistance $\Omega$
3	2.25	0.15	3.9	10 $\times$ (1 $\pm$ 10%)
5	3.75	0.25	6.5	28 $\times$ (1 $\pm$ 10%)
6	4.5	0.30	7.8	40 $\times$ (1 $\pm$ 10%)
9	6.75	0.45	11.7	90 $\times$ (1 $\pm$ 10%)
12	9.00	0.60	15.6	160 $\times$ (1 $\pm$ 10%)
18	13.5	0.90	23.4	360 $\times$ (1 $\pm$ 10%)
24	18.0	1.20	31.2	640 $\times$ (1 $\pm$ 10%)
48	36.0	2.40	62.4	2560 $\times$ (1 $\pm$ 10%)

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

2) Maximum voltage refers to the maximum voltage which relay coil could endure in a short period of time.



HONGFA RELAY

ISO9001, IATF16949, ISO14001, ISO45001, IECQ QC 080000, ISO/IEC 27001 CERTIFIED

2024 Rev. 1.00

## SAFETY APPROVAL RATINGS

<b>UL/CUL</b>	2H & 2H 072	10A 250VAC Resistive load,40°C,1s on 9s off 10A 250VAC Resistive load,85°C,1s on 9s off 10A 250VAC General use,85°C,1s on 9s off TV-8(2H 072)
<b>VDE</b>	2H & 2H 072	10A 250VAC Resistive load,40°C,1s on 9s off 10A 250VAC Resistive load,85°C,1s on 9s off
<b>CQC</b>	2H & 2H 072	10A 250VAC Resistive load,40°C,1s on 9s off 10A 250VAC Resistive load,85°C,1s on 9s off

Notes: 1) All values unspecified are at room temperature.

2) Only some typical rating are listed above.If more details are required,please contact us.

## ORDERING INFORMATION

<b>Type</b>	HF30F/	12	-2H	S	P2	T	F	(XXX)
<b>Coil voltage</b>	3, 5, 6, 9, 12, 18, 24, 48VDC							
<b>Contact arrangement</b>	2H:2 Form A							
<b>Construction</b>	S: Plastic sealed Nil: Flux proofed							
<b>Coil Power</b>	Nil: 0.4W P2: 0.9W							
<b>Contact material</b>	T: AgSnO <sub>2</sub>							
<b>Insulation class</b>	F: Class F							
<b>Special code</b>	XXX: Customer special requiremen; Nil: Standard							

Notes: 1) We suggest to choose plastic sealed types and validate it in real application for an unclean environment (with contaminations like H<sub>2</sub>S, SO<sub>2</sub>, NO<sub>2</sub>, dust, etc).

2) When overall cleaning is not required, it is recommended to select flux products. Contact is recommended for suitable condition and specifications if water cleaning or surface process is involved in assembling relays on PCB.

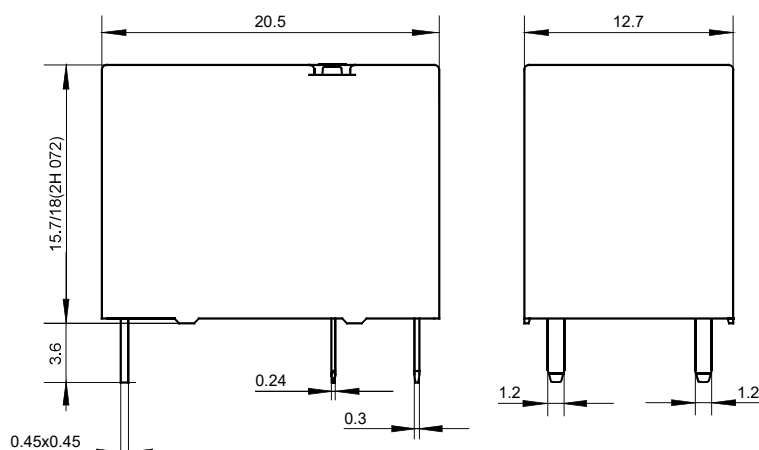
3) The customer special requirement express as special code after evaluating by Hongfa.

e.g.(335) stands for product in accordance to IEC 60335-1(GWT); This product (072) indicates that the gap between open contacts is ≥0.75mm.

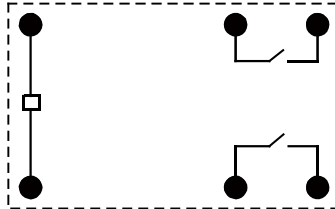
## OUTLINE DIMENSIONS, WIRING DIAGRAM AND PC BOARD LAYOUT

Unit: mm

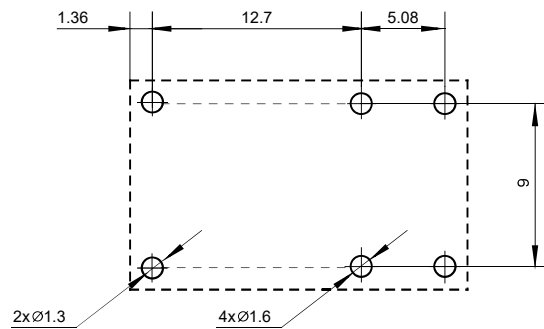
Outline Dimensions



Wiring Diagram(Bottom view)



PCB Layout(Bottom view)



- Notes:1) The pin dimension of the product outline drawing is the size before tinning (it will become larger after tinning), and the mounting hole size is the recommended design size of the PCB board hole. The specific PCB board hole design size can be mapped and adjusted according to the actual product.
- 2) In case of no tolerance shown in outline dimension: outline dimension  $\leq 1\text{mm}$ , tolerance should be  $\pm 0.2\text{mm}$ ; outline dimension  $> 1\text{mm}$  and  $\leq 5\text{mm}$ , tolerance should be  $\pm 0.3\text{mm}$ ; outline dimension  $> 5\text{mm}$  and  $\leq 30\text{mm}$ , tolerance should be  $\pm 0.4\text{mm}$ ; outline dimension  $> 30\text{mm}$ , tolerance should be  $\pm 0.6\text{mm}$ .
- 3) The tolerance without indicating for PCB layout is always  $\pm 0.1\text{mm}$ .

## 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.

© Xiamen Hongfa Electroacoustic Co., Ltd. All rights of Hongfa are reserved.