

# HF14FF

# MINIATURE HIGH POWER RELAY



File No.:E134517



File No.:R50140759



File No.:CQC09002035073



## Features

- 10A switching capability
- 5kV dielectric strength (between coil and contacts)
- Sockets available
- Plastic sealed and dust protected types available
- Environmental friendly product (RoHS compliant)
- Outline Dimensions: (29.0 x 13.0 x 26.0) mm

## CONTACT DATA

Contact arrangement	1A, 1C
Contact resistance	50mΩ (at 1A 24VDC)
Contact material	AgSnO <sub>2</sub> , AgNi, AgCdO
Contact rating	Resistive: 10A 277VAC/30VDC TV-5 120VAC
Max. switching voltage	277VAC / 30VDC
Max. switching current	10A
Max. switching power	2770VA / 300W
Mechanical endurance	1 x 10 <sup>7</sup> OPS
Electrical endurance	1 x 10 <sup>5</sup> OPS (See approval reports for more details)

## CHARACTERISTICS

Insulation resistance	1000MΩ (at 500VDC)	
Dielectric strength	Between coil & contacts	5000VAC 1min
	Between open contacts	1000VAC 1min
Operate time (at nomi. volt.)	15ms max.	
Release time (at nomi. volt.)	5ms max.	
Vibration resistance	10Hz to 55Hz 1.5mm DA	
Shock resistance	Functional	98m/s <sup>2</sup>
	Destructive	980m/s <sup>2</sup>
Humidity	98% RH, 40°C	
Ambient temperature	-40°C to 70°C	
Termination	PCB	
Unit weight	Approx. 18g	
Construction	Plastic sealed, Dust protected	

**Notes:** 1) The data shown above are initial values.  
2) Please find coil temperature curve in the characteristic curves below.

## COIL

Coil power	Approx. 530mW
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## COIL DATA

at 23°C

Nominal Voltage VDC	Pick-up Voltage VDC	Drop-out Voltage VDC	Max. Allowable Voltage VDC	Coil Resistance Ω
3	2.25	0.3	4.2	17 x (1±10%)
5	3.75	0.5	7.0	47 x (1±10%)
6	4.50	0.6	8.4	68 x (1±10%)
9	6.75	0.9	12.6	160 x (1±10%)
12	9.00	1.2	16.8	275 x (1±10%)
18	13.5	1.8	25.2	620 x (1±10%)
24	18.0	2.4	33.6	1100 x (1±10%)
48	36.0	4.8	67.2	4170 x (1±10%)
60	45.0	6.0	84.0	7000 x (1±10%)

**Notes:** When requiring pick-up voltage < 75% of nominal voltage, special order allowed.

## SAFETY APPROVAL RATINGS

UL/CUL	AgCdO	1 Form A	TV-5 120VAC 10A 277VAC General purpose 10A 30VDC Resistive 1/3HP 250VAC 1/4HP 125VAC
		1 Form C	TV-5 120VAC 10A 277VAC General purpose 10A 30VDC Resistive 1/3HP 250VAC NO:1/4HP 125VAC
	AgSnO <sub>2</sub> AgNi		10A 277VAC General purpose 10A 30VDC Resistive 1/3HP 250VAC 1/4HP 125VAC TV-5 120VAC
TÜV	AgCdO AgSnO <sub>2</sub>		10A 250VAC 10A 30VDC

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



HONGFA RELAY

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

2010 Rev. 1.00

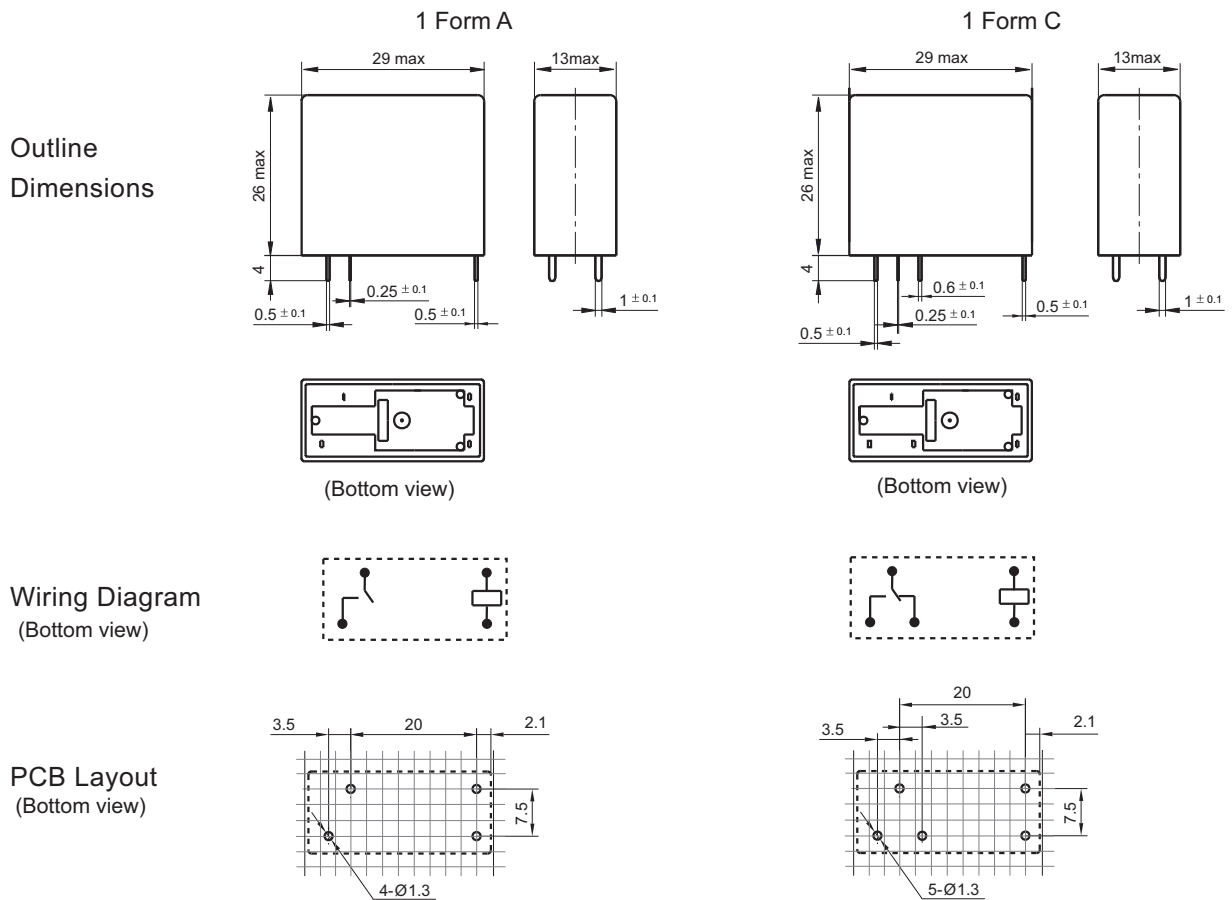
## ORDERING INFORMATION

Type	HF14FF / 012 -1H S T (XXX)				
Coil voltage	3, 5, 6, 9, 12, 18, 24, 48, 60VDC				
Contact arrangement	1H: 1 Form A		1Z: 1 Form C		
Construction <sup>1)</sup>	S: Plastic sealed		Nil: Dust protected		
Contact material	T: AgSnO <sub>2</sub>	3: AgNi	Nil: AgCdO		
Customer special code					

- Notes:** 1) We recommend dust protected types for a clean environment (free from contaminations like H<sub>2</sub>S, SO<sub>2</sub>, NO<sub>2</sub>, dust, etc.). 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). If water cleaning is required after the relay is assembled on PCB, please contact us for suggestion about suitable parts.
- 2) The standard type is made of black cover. If smoke cover is required, please add a special suffix (611) when ordering. Please take note that smoke cover is only available for dust protected type.

## OUTLINE DIMENSIONS, WIRING DIAGRAM AND PC BOARD LAYOUT

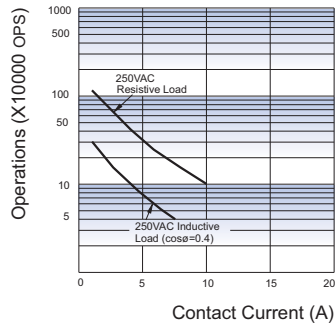
Unit: mm



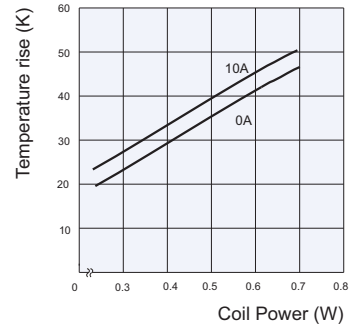
- Remark: 1) In case of no tolerance shown in outline dimension: outline dimension ≤ 1mm, tolerance should be ±0.2mm; outline dimension > 1mm and ≤ 5mm, tolerance should be ±0.3mm; outline dimension > 5mm, tolerance should be ±0.4mm.
- 2) The tolerance without indicating for PCB layout is always ±0.1mm.
- 3) The width of the gridding is 2.5mm.

## CHARACTERISTIC CURVES

ENDURANCE CURVE



COIL TEMPERATURE RISE



### Disclaimer

This datasheet is for the customers' reference. All the specifications are 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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