

# HF14FF (JQX-14FF)

# MINIATURE HIGH POWER RELAY



File No.:E134517



File No.:R50055983



File No.:CQC02001001955



### Features

- 10A switching capability
- 5kV dielectric strength (between coil and contacts)
- Sockets available
- Wash tight and flux proofed 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> , AgCdO
Contact rating	TV-5 120VAC Resistive: 10A 277VAC/30VDC
Max. switching voltage	277VAC / 30VDC
Max. switching current	10A
Max. switching power	2770VAC / 300W
Mechanical endurance	1 x 10 <sup>7</sup> OPS
Electrical endurance	1 x 10 <sup>5</sup> OPS <sup>1)</sup>

### 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	100m/s <sup>2</sup> (10g)
	Destructive	1000m/s <sup>2</sup> (100g)
Humidity	98% RH, 40°C	
Ambient temperature	-40°C to 70°C	
Termination	PCB	
Unit weight	Approx. 18g	
Construction	Wash tight, Flux proofed	

- Notes:** 1) If more details about testing method are required, please contact us.  
 2) The data shown above are initial values.  
 3) 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&CUR	10A 277VAC
	10A 30VDC
	1/3HP 250VAC
	1/4HP 125VAC
TÜV	TV-5 120VAC
	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 CERTIFIED

2007 Rev. 2.00

## ORDERING INFORMATION

<b>HF14FF / 012 -1H S T F (XXX)</b>	
<b>Type</b> <sup>1)</sup>	HF14FF JQX-14FF (Old type)
<b>Coil voltage</b>	3, 5, 6, 9, 12, 18, 24, 48, 60VDC
<b>Contact arrangement</b>	<b>1H:</b> 1 Form A <b>1Z:</b> 1 Form C
<b>Construction</b> <sup>2)</sup>	<b>S:</b> Wash tight <b>Nil:</b> Flux proofed
<b>Contact material</b>	<b>T:</b> AgSnO <sub>2</sub> <b>Nil:</b> AgCdO
<b>Insulation standard</b>	<b>F:</b> Class F <b>Nil:</b> Class B
<b>Customer special code</b> <sup>3)</sup> (Only for special requirements)	e.g. (551) stands for RoHS compliant (Cadmium containing contacts) (555) stands for RoHS compliant (Cadmium-free contacts)

**Notes:** 1) We have now gradually updated our ordering information. We suggest new type should be selected. If necessary, old type can be kept for some period for the old customers.

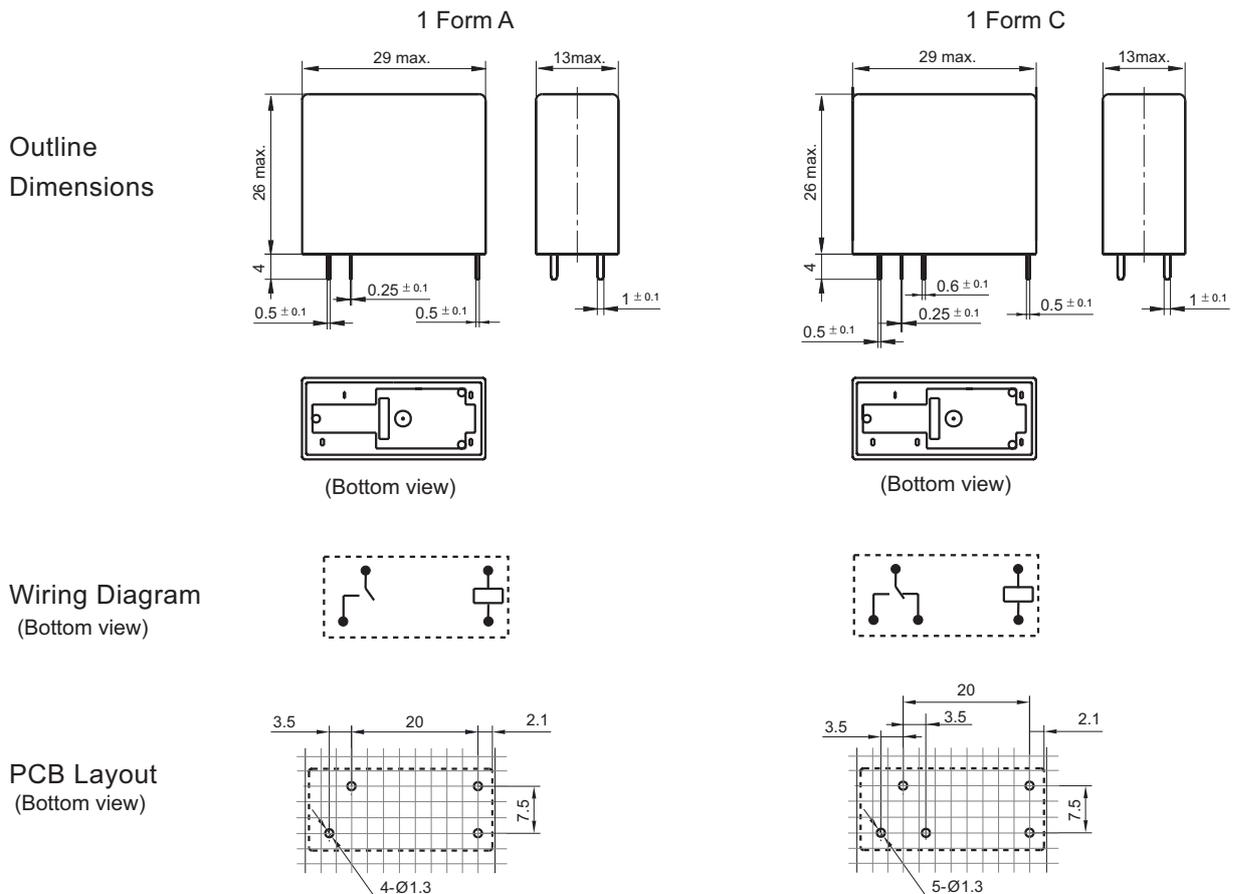
2) Under the ambience with dangerous gas like H<sub>2</sub>S, SO<sub>2</sub> or NO<sub>2</sub>, wash tight type is recommended; please test the relay in real applications. If the ambience allows, flux proofed is preferentially recommended.

3) HF14FF is an environmental friendly product. Please mark a special code (555) or (551) when ordering. (551) stands RoHS compliant with Cadmium contact; (555) stands for RoHS compliant with Cadmium-free contact.

4) Standard type is with black cover. Smoke dust cover is available.

## OUTLINE DIMENSIONS, WIRING DIAGRAM AND PC BOARD LAYOUT

Unit: mm



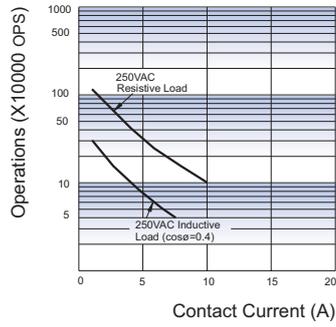
Remark: 1) In case of no tolerance shown in outline dimension: outline dimension ≤ 1mm, tolerance should be ±0.2mm; outline dimension > 1mm and ≤ 5mm, tolerance should be ±0.3mm; outline dimension > 5mm, tolerance should be ±0.4mm.

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

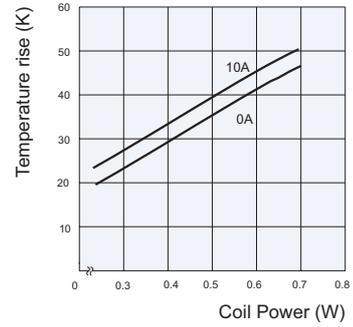
3) The width of the gridding is 2.5mm.

## 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.