

# HF21FF (JQC-21FF)

# SUBMINIATURE HIGH POWER RELAY



File No.:E133481



File No.:R2034012



File No.:CQC02001001953



## Features

- 15A switching capability
- Extremely low cost
- 1 Form A and 1 Form C configurations
- Standard PCB layout
- Wash tight & flux proofed types available
- Environmental friendly product (RoHS compliant)
- Outline Dimensions: (20.2 x 16.5 x 20.2) mm

## CONTACT DATA

Contact arrangement	1A	1C
Contact resistance	100mΩ (at 1A 6VDC)	
Contact material	AgSnO <sub>2</sub> , AgCdO	
Contact rating	15A 120VAC	10A 120VAC/24VDC
Max. switching voltage	250VAC / 30VDC	
Max. switching current	15A	10A
Max. switching power	1800VA / 240W	
Mechanical endurance	1 x 10 <sup>7</sup> ops	
Electrical endurance	1 x 10 <sup>5</sup> ops	

## COIL

Coil power	5 to 24VDC: 360mW; 48VDC: 530mW
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## COIL DATAE

at 23°C

Nominal Voltage VDC	Pick-up Voltage VDC	Drop-out Voltage VDC	Max. Allowable Voltage VDC	Coil Resistance Ω
5	3.80	0.5	6.5	70 x (1±10%)
6	4.50	0.6	7.8	100 x (1±10%)
9	6.80	0.9	11.7	225 x (1±10%)
12	9.00	1.2	15.6	400 x (1±10%)
18	13.5	1.8	23.4	900 x (1±10%)
24	18.0	2.4	31.2	1600 x (1±15%)
48	36.0	4.8	62.4	4500 x (1±15%)

## CHARACTERISTICS

Insulation resistance	100MΩ (at 500VDC)	
Dielectric strength	Between coil & contacts	1500VAC 1min
	Between open contacts	750VAC 1min
Operate time (at nomi. volt.)	10ms max.	
Release time (at nomi. volt.)	5ms max.	
Shock resistance	Functional	100m/s <sup>2</sup> (10g)
	Destructive	1000m/s <sup>2</sup> (100g)
Vibration resistance	10Hz to 55Hz 1.5mm DA	
Humidity	35% to 85% RH	
Ambient temperature	-40°C to 70°C	
Termination	PCB	
Unit weight	Approx. 10g	
Construction	Wash tight, Flux proofed	

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

2) Please find coil temperature curve in the characteristic curves below.

## SAFETY APPROVAL RATINGS

UL&CUR	1 Form C	10A 120VAC
	1 Form A	15A 120VAC TV-5 120VAC
TÜV	12A 125VAC COSØ =1	
	5A 250VAC COSØ =1	

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>HF21FF / 012 -1H S T F (XXX)</b>	
<b>Type</b> <sup>1)</sup>	HF21F JQC-21F (Old type)		
<b>Coil voltage</b>	5, 6, 9, 12, 18, 24, 48VDC		
<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)		

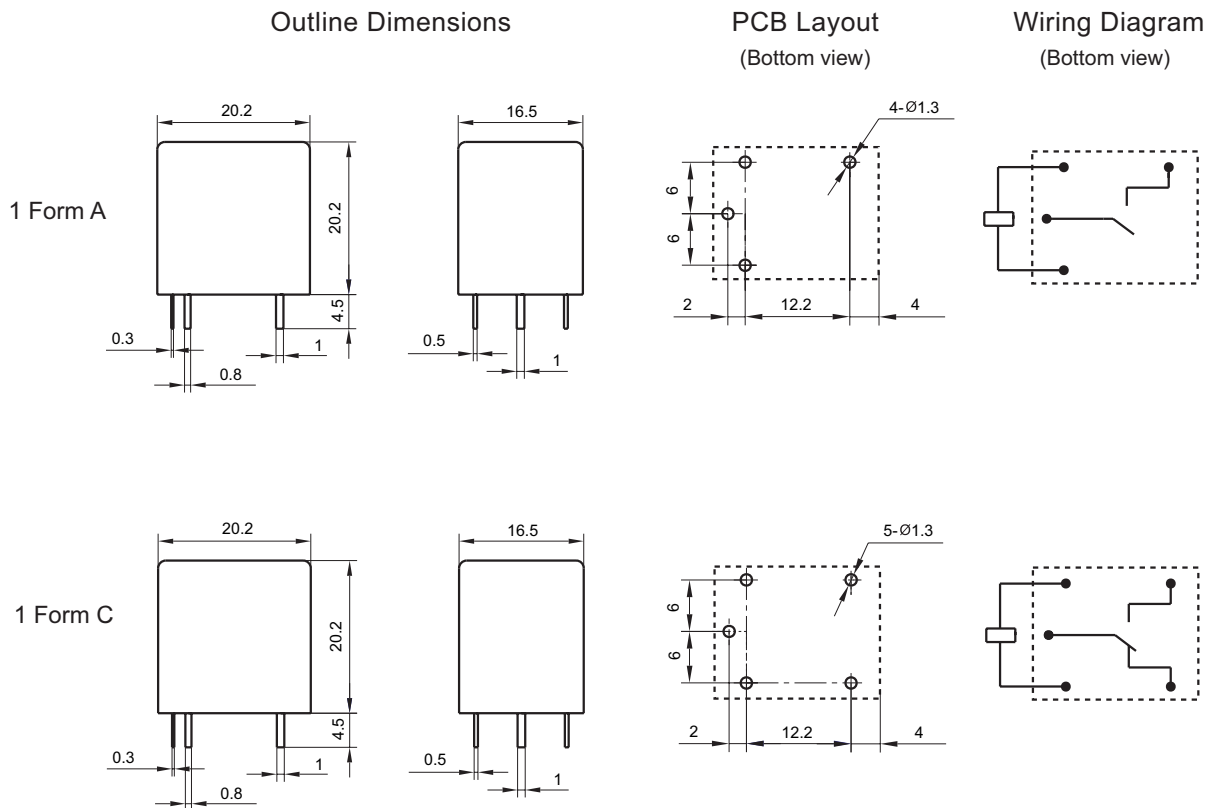
**Notes:** 1) We have now gradually updated our ordering information. We suggest new type should be selected. If necessary, old type can be kept for some period for the old customers.

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) HF21FF 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.

## OUTLINE DIMENSIONS, WIRING DIAGRAM AND PC BOARD LAYOUT

Unit: mm

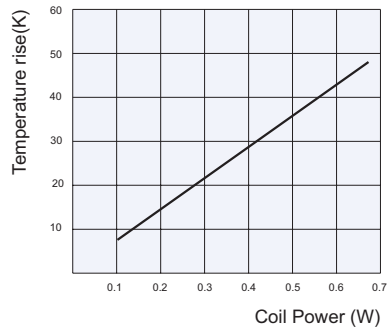


Remark: 1) In case of no tolerance shown in outline dimension: outline dimension  $\leq 1$ mm, tolerance should be  $\pm 0.2$ mm; outline dimension  $> 1$ mm and  $\leq 5$ mm, tolerance should be  $\pm 0.3$ mm; outline dimension  $> 5$ mm, tolerance should be  $\pm 0.4$ mm.

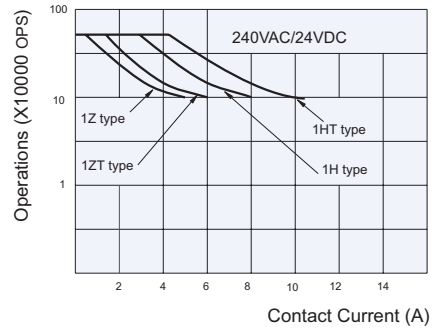
2) The tolerance without indicating for PCB layout is always  $\pm 0.1$ mm.

## CHARACTERISTIC CURVES

COIL TEMPERATURE RISE



ENDURANCE CURVE



### 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.