

# HF12FF (JQC-12FF)

# SUBMINIATURE HIGH POWER RELAY



File No.:E134517



File No.:CQC02001001953



### Features

- 12A switching capability
- 1 From A configuration
- Subminiature, standard PCB layout
- Wash tight & flux proofed types available
- Environmental friendly product (RoHS compliant)
- Outline Dimensions: (18.4 x 15.2 x 10.2) mm

### CONTACT DATA

Contact arrangement	1A
Contact resistance	100mΩ (at 1A 24VDC)
Contact material	AgSnO <sub>2</sub>
Contact rating (Res. load)	10A 277VAC/30VDC 12A 125VAC
Max. switching voltage	277VAC
Max. switching current	12A
Max. switching power	2770VA / 300W
Mechanical endurance	1 x 10 <sup>7</sup> ops
Electrical endurance	1 x 10 <sup>5</sup> ops

### CHARACTERISTICS

Insulation resistance	1000MΩ (at 500VDC)	
Dielectric strength	Between coil & contacts	2500VAC 1min
	Between open contacts	1000VAC 1min
Operate time (at nomi. volt.)	8ms 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 95% RH	
Ambient temperature	-40°C to 85°C	
Termination	PCB	
Unit weight	Approx. 6g	
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.

### COIL

Coil power	450mW
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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	0.15	3.90	20 x (1±10%)
5	3.75	0.25	6.50	55 x (1±10%)
6	4.50	0.30	7.80	80 x (1±10%)
9	6.75	0.45	11.7	180 x (1±10%)
12	9.00	0.60	15.6	320 x (1±10%)
18	13.5	0.90	23.4	720 x (1±10%)
24	18.0	1.20	31.2	1280 x (1±10%)

### SAFETY APPROVAL RATINGS

UL&CUR	12A 125VAC
	10A 277VAC
	13.5A 125VAC
	10A 30VDC
	TV-5 1/4HP 125/250VAC

**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>HF12FF /</b>	<b>012</b>	<b>-H</b>	<b>S</b>	<b>(XXX)</b>
<b>Type</b> <sup>1)</sup>	HF12FF JQC-12FF (Old type)					
<b>Coil voltage</b>	3, 5, 6, 9, 12, 18, 24VDC					
<b>Contact arrangement</b>	H: 1 Form A					
<b>Construction</b> <sup>2)</sup>	S: Wash tight		Nil: Flux proofed			
<b>Customer special code</b> <sup>3)</sup>	Only for special requirements, e.g. (555) stands for RoHS compliant					

**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.

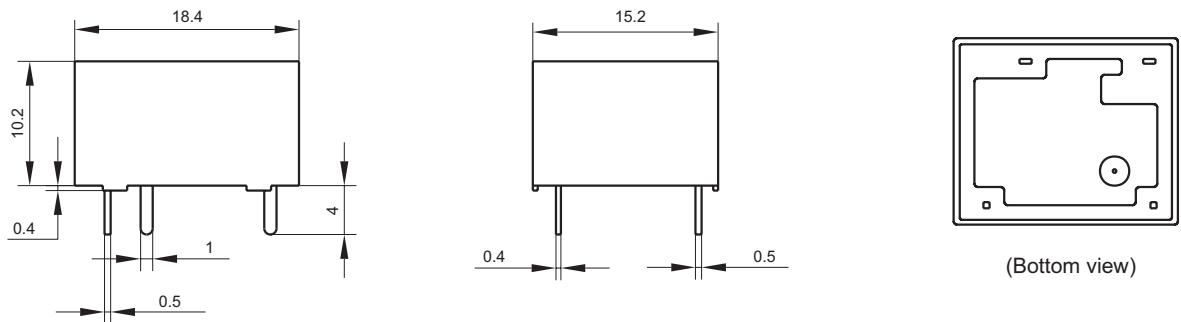
2) Under the ambience with dangerous gas like H<sub>2</sub>S, SO<sub>2</sub> or NO<sub>2</sub>, wash tight type is recommended; please test the relay in real applications. If the ambience allows, flux proofed is preferentially recommended.

3) HF12FF is an environmental friendly product. Please mark a special code (555) when ordering.

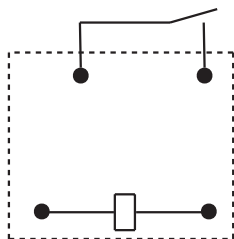
## OUTLINE DIMENSIONS, WIRING DIAGRAM AND PC BOARD LAYOUT

Unit: mm

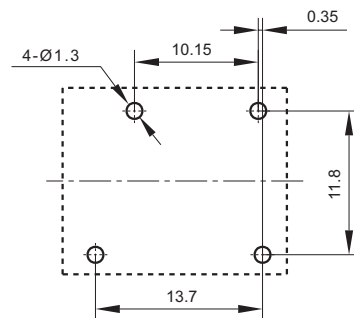
### Outline Dimensions



### Wiring Diagram (Bottom view)



### PCB Layout (Bottom view)

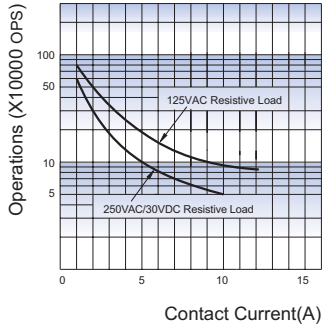


Remark: 1) In case of no tolerance shown in outline dimension: outline dimension  $\leq 1$ mm, tolerance should be  $\pm 0.2$ mm; outline dimension  $> 1$ mm and  $\leq 5$ mm, tolerance should be  $\pm 0.3$ mm; outline dimension  $> 5$ mm, tolerance should be  $\pm 0.4$ mm.

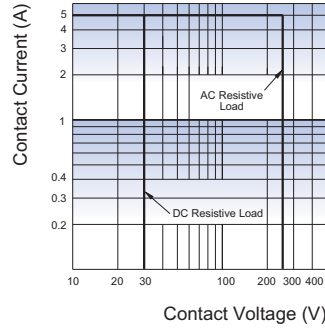
2) The tolerance without indicating for PCB layout is always  $\pm 0.1$ mm.

# CHARACTERISTIC CURVES

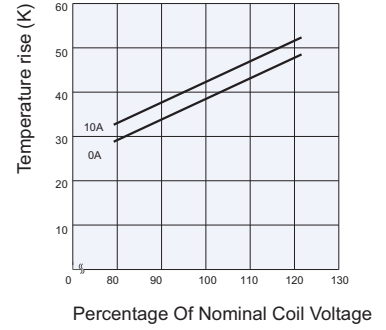
ENDURANCE CURVE



MAXIMUM SWITCHING POWER



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.