

# HF115F-H (JQX-115F-H)

# MINIATURE HIGH POWER RELAY



File No.:E134517



File No.:116934



File No.:CQC02001001951



### Features

- High sensitive: 0.25W
- Low height: 15.7 mm
- 5kV dielectric strength (between coil and contacts)
- Creepage distance: 10mm
- VDE0435/0631/0700
- Product in accordance to IEC 60335-1 available
- Sockets available
- Wash tight and flux proofed types available
- Environmental friendly product (RoHS compliant)
- Outline Dimensions: (29.0 x 12.7 x 15.7) mm

### CONTACT DATA

Contact arrangement	1A, 1B, 1C
Contact resistance	100mΩ (at 1A 6VDC)
Contact material	See ordering info.
Contact rating (Sensitive coil)	10A 250VAC
Max. switching voltage	440VAC / 125VDC
Max. switching current	10A
Max. switching power	2500VA
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
Surge voltage (between coil & contacts)	10kV (1.2X50μs)	
Operate time (at nomi. volt.)	15ms max.	
Release time (at nomi. volt.)	8ms max.	
Temperature rise (at nomi. volt.)	55K max.	
Shock resistance	Functional	100m/s <sup>2</sup> (10g)
	Destructive	1000m/s <sup>2</sup> (100g)
Vibration resistance	10Hz to 150Hz 10g/5g	
Humidity	35% to 85% RH	
Ambient temperature	-40°C to 85°C	
Termination	PCB	
Unit weight	Approx. 13.5g	
Construction	Wash tight, Flux proofed	

Notes: The data shown above are initial values.

### COIL

Coil power	250mW
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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
5	3.75	0.5	7.5	100 x (1±10%)
6	4.50	0.6	9.0	144 x (1±10%)
12	9.00	1.2	18	576 x (1±10%)
18	13.50	1.8	27	1296 x (1±10%)
24	18.00	2.4	36	2304 x (1±10%)
48	36.00	4.8	72	9216 x (1±15%)
60	45.00	6.0	90	12857 x (1±15%)



HONGFA RELAY

ISO9001、ISO/TS16949、ISO14001、OHSAS18001 CERTIFIED

2007 Rev. 2.00

## SAFETY APPROVAL RATINGS

### VDE

Contact Material	Specifications	Ratings
AgSnO <sub>2</sub>	1(H;Z)(S)(1;2;3)A(G)(F)	10A 250VAC at 85°C
AgCdO	1(H;Z)(S)(1;2;3)(G)(F)	10A 250VAC at 85°C 6A 400VAC at 85°C

### UL&CUR

Contact Material	Specifications	Ratings
AgCdO	1(H;Z)(S)(1;2;3)(G)(F)	10A 250VAC

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

## ORDERING INFORMATION

<b>HF115F-H / 012 -1H S 3 A (XXX)</b>	
<b>Type</b> <sup>1)</sup>	HF115F-H JQX-115F-H (Old type)
<b>Coil voltage</b>	5, 6, 12, 18, 24, 48, 60VDC
<b>Contact arrangement</b>	<b>1H:</b> 1 Form A <b>1D:</b> 1 Form B <b>1Z:</b> 1 Form C
<b>Construction</b> <sup>2)</sup>	<b>S:</b> Wash tight <b>Nil:</b> Flux proofed
<b>Version</b>	<b>1:</b> 3.5mm 1 pole <b>2:</b> 5.0mm 1 pole <b>3:</b> 5.0mm 1 pole
<b>Contact material</b> <sup>3)</sup>	<b>A:</b> AgSnO <sub>2</sub> <b>B:</b> AgNi <b>Nil:</b> AgCdO <b>G:</b> AgCdO+Au plated <b>AG:</b> AgSnO <sub>2</sub> +Au plated <b>BG:</b> AgNi+Au plated
<b>Customer special code</b> <sup>4)</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.

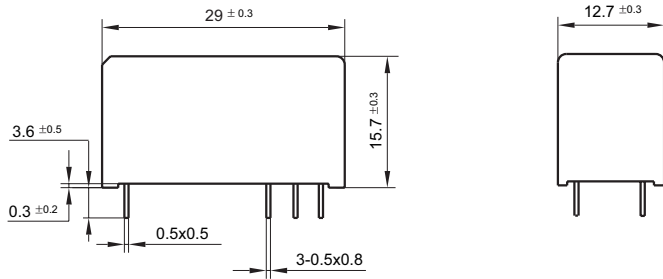
3) For gold plated type, the min. switching current and min. switching voltage is 100mA 5VDC.

4) HF115F-H 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

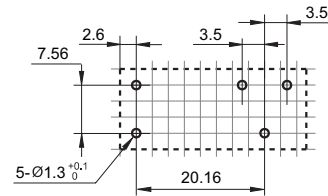
Unit: mm

## Outline Dimensions

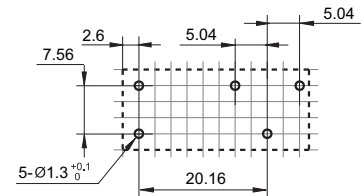


## PCB Layout (Bottom view)

### 3.5mm Pinning, 1 Pole



### 5mm Pinning, 1 Pole



## Wiring Diagram (Bottom view)

3.5/5mm Pinning, 1 Pole, 10A, HF115F-H/ □□□ -□□ -□ -1/2 -□



1 Form A

1 Form B

1 Form C

5mm Pinning, 1 Pole, 10A, HF115F-H/ □□□ -□□ -□ -3 -□

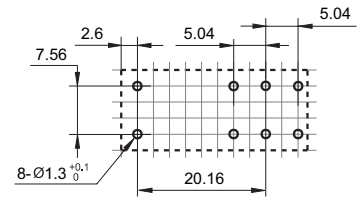


1 Form A

1 Form B

1 Form C

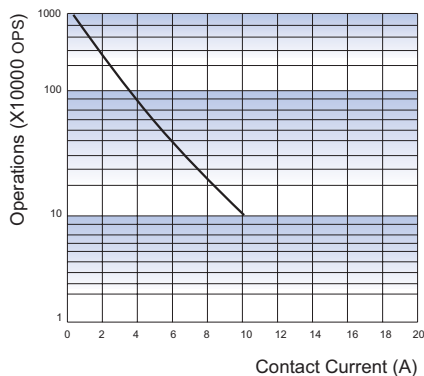
### 5mm Pinning, 1 Pole



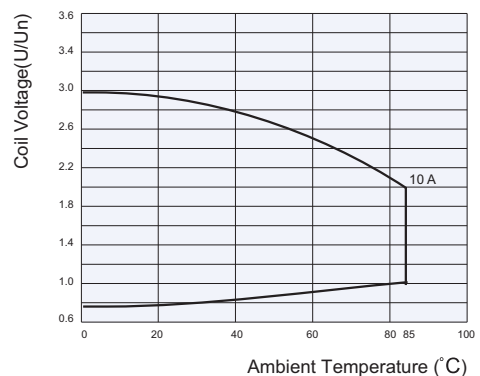
- Remark: 1) In case of no tolerance shown in outline dimension: outline dimension  $\leq 1\text{mm}$ , tolerance should be  $\pm 0.2\text{mm}$ ; outline dimension  $> 1\text{mm}$  and  $\leq 5\text{mm}$ , tolerance should be  $\pm 0.3\text{mm}$ ; outline dimension  $> 5\text{mm}$ , tolerance should be  $\pm 0.4\text{mm}$ .  
 2) The tolerance without indicating for PCB layout is always  $\pm 0.1\text{mm}$ .  
 3) The width of the gridding is 2.52mm.

# CHARACTERISTIC CURVES

## ENDURANCE CURVE



## COIL OPERATING RANGE (DC)



## 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.