

# HF115F-S

# MINIATURE HIGH POWER RELAY



File No.:E134517



File No.:116934



File No.:CQC08002028130



## Features

- Special contact struction
- Incandescent lamp load: 3000W 230VAC
- 5kV dielectric strength (between coil and contacts)
- Creepage distance: 10mm
- Low height: 15.7 mm
- Meeting reinforce insulation
- Product in accordance to IEC 60335-1 available
- Plastic sealed and flux proofed types available
- UL insulation system: Class F available
- Environmental friendly product (RoHS compliant)
- Outline Dimensions: (29.0 x 12.7 x 15.7) mm

## CONTACT DATA

Contact arrangement	1A
Contact resistance	100mΩ max.(at 1A 6VDC)
Contact material	W+AgSnO <sub>2</sub>
Contact rating	Resistive:16A 250VAC
	Incandescent Lamp: 3000W 230VAC
	Inrush current: 165A/ 20ms fluorescent: 800A/200μs
Max. switching voltage	440VAC
Max. switching current	16A
Max. switching power	4000VA
Mechanical endurance	5 x 10 <sup>6</sup> OPS
Electrical endurance	1 x 10 <sup>4</sup> OPS

## CHARACTERISTICS

Insulation resistance	1000MΩ (at 500VDC)	
Dielectric strength	Between coil & contacts	5000VAC 1min
	Between open contacts	1250VAC 1min
Surge voltage (between coil & contacts)	10kV (1.2 x 50μs)	
Operate time (at nomi. volt.)	15ms max.	
Release time (at nomi. volt.)	8ms max.	
Temperature rise (at nomi. volt.)	55K max.	
Shock resistance *	Functional	98m/s <sup>2</sup>
	Destructive	980m/s <sup>2</sup>
Vibration resistance *	10Hz to 150Hz 10g	
Humidity	5% to 85% RH	
Ambient temperature	-40°C to 85°C	
Termination	PCB	
Unit weight	Approx. 13.5g	
Construction	Plastic sealed, Flux proofed	

- Notes:**1) This contact resistance value is tested under the nominal voltage.  
 2) \*Index is not that of relay length direction.  
 3) The data shown above are initial values.  
 4) UL insulation system: Class F,Class B.

## COIL

Coil power	Approx. 400mW
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## COIL DATA

at 23°C

Nominal Voltage VDC	Pick-up Voltage VDC max.	Drop-out Voltage VDC min.	Max. Allowable Voltage VDC *	Coil Resistance Ω
5	3.50	0.5	7.5	62 x (1±10%)
6	4.20	0.6	9.0	90 x (1±10%)
9	6.30	0.9	13.5	202 x (1±10%)
12	8.40	1.2	18	360 x (1±10%)
18	12.6	1.8	27	810 x (1±10%)
24	16.8	2.4	36	1440 x (1±10%)
48	33.6	4.8	72	5760 x (1±15%)
60	42.0	6.0	90	7500 x (1±15%)
110	77.0	11.0	165	25200 x (1±15%)

**Notes:** \* The max. allowable voltage in the COIL DATA is coil overdrive voltage, it is the instantaneous max. voltage which the relay coil could endure in a very short time.

## SAFETY APPROVAL RATINGS

VDE	16A 250VAC at 85°C
	16A 250VAC at 85°C
UL/CUL	Incandescent lamp 3000W 230VAC at 40°C
	TV-8 120VAC at 40°C
	Incandescent lamp 1200W 120VAC at 50°C
	Incandescent lamp 1200W 277VAC at 50°C
	Standard electrical ballast 2.2A 277VAC at 50°C

**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

2012 Rev. 1.01

## ORDERING INFORMATION

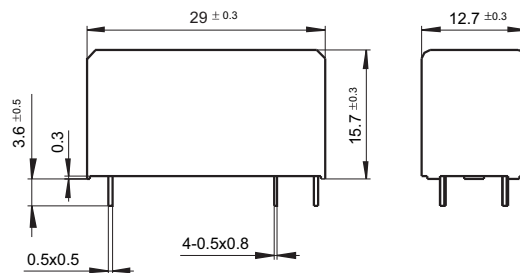
Type	HF115F-S /	12	H	S	F	(XXX)
Coil voltage	5, 6, 9, 12, 18, 24, 48, 60, 110VDC					
Contact arrangement	H: 1 Form A					
Construction <sup>1)</sup>	S: Plastic sealed		Nil: Flux proofed			
Insulation Standard	F: Class F		Nil: Class B			
Customer special code	e.g. (335) stands for product in accordance to IEC 60335-1 (GWT)					

**Notes:** 1) We recommend flux proofed 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.

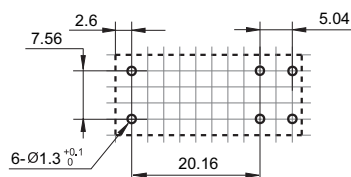
## OUTLINE DIMENSIONS, WIRING DIAGRAM AND PC BOARD LAYOUT

Unit: mm

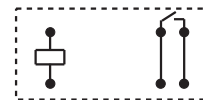
### Outline Dimensions



### PCB Layout (Bottom view)



### Wiring Diagram (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.  
3) The width of the gridding is 2.52mm.

### 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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