

# HF115F-A

# MINIATURE HIGH POWER RELAY



File No.:E134517



File No.:116934



## Features

- AC voltage coil type
- 16A switching capability
- 1 & 2 pole configurations
- 5kV dielectric strength (between coil and contacts)
- Low height: 15.7 mm
- Creepage distance: 10mm
- VDE0435/0110, VDE0631/0700
- 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	2A, 2B, 2C
Contact resistance	100mΩ (at 1A 6VDC)	
Contact material	See ordering info.	
Contact rating (Res. load)	12A/16A 250VAC	8A 250VAC
Max. switching voltage	440VAC	
Max. switching current	12A/16A	8A
Max. switching power	3000VA / 4000VA	2000VA
Mechanical endurance	1 x 10 <sup>6</sup> OPS	
Electrical endurance	5 x 10 <sup>4</sup> OPS (See approval reports for more details)	

## COIL

Coil power	0.75VA
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## COIL DATA (at 50Hz)

at 23°C

Nominal Voltage VAC	Pick-up Voltage VAC	Drop-out Voltage VAC	Coil Current mA	Coil Resistance Ω
24	18.00	3.60	31.6	350 x (1±10%)
115	86.30	17.30	6.6	8100 x (1±15%)
230	172.50	34.50	3.2	32500 x (1±15%)

## CHARACTERISTICS

Insulation resistance	1000MΩ (at 500VDC)	
Dielectric strength	Between coil & contacts	5000VAC 1min
	Between open contacts	1000VAC 1min
	Between contact sets	2500VAC 1min
Temperature rise (at nomi. volt.)	65K 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 70°C	
Termination	PCB	
Unit weight	Approx. 13.5g	
Construction	Wash tight; Flux proofed	

Notes: The data shown above are initial values.

## SAFETY APPROVAL RATINGS

UL&CUR	12A 250VAC
	16A 250VAC
	8A 250VAC
VDE (AgNi, AgNi+Au)	12A 250VAC
	16A 250VAC
	8A 250VAC
VDE (AgSnO <sub>2</sub> , AgSnO <sub>2</sub> +Au)	12A 250VAC
	16A 250VAC
	8A 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

Type		HF115F-A / 024 -1H S 1 A F (XXX)					
Coil voltage	24, 115, 230VAC						
Contact arrangement	1H: 1 Form A 1D: 1 Form B 1Z: 1 Form C 2H: 2 Form A 2D: 2 Form B 2Z: 2 Form C						
Construction <sup>1)</sup>	S: Wash tight Nil: Flux proofed						
Version	1: 3.5mm 1 pole 12A 2: 5.0mm 1 pole 12A 3: 5.0mm 1 pole 16A 4: 5.0mm 2 pole 8A						
Contact material	A: AgSnO <sub>2</sub> B: AgNi Nil: AgCdO G: AgCdO+Au plated AG: AgSnO <sub>2</sub> +Au plated BG: AgNi+Au plated						
Insulation standard	F: Class F						
Customer special code <sup>2)</sup>	e.g. (551) stands for RoHS compliant (Cadmium containing contacts) (Only for special requirements) (555) stands for RoHS compliant (Cadmium-free contacts)						

Notes: 1) 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.

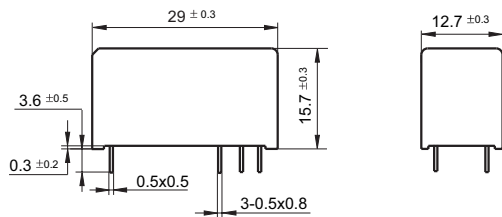
2) HF115F-A is an environmental friendly product. Please mark a special code (555) or (551) when ordering. (551) stands RoHS compliant with Cadmium contact; (555) stands for RoHS compliant with Cadmium-free contact.

## OUTLINE DIMENSIONS, WIRING DIAGRAM AND PC BOARD LAYOUT

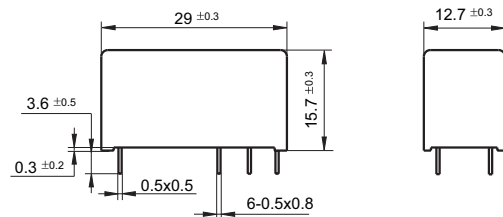
Unit: mm

### Outline Dimensions

3.5mm Pinning (HF115F-A/ □□□ -□□ -□ -1)

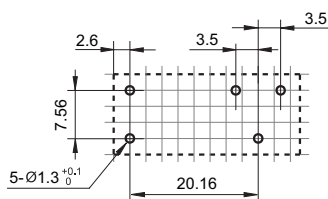


5mm Pinning (HF115F-A/ □□□ -□□ -□ -2/3/4)

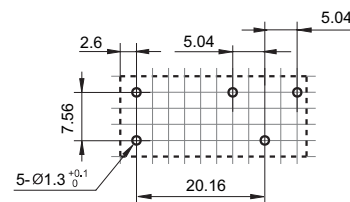


### PCB Layout (Bottom view)

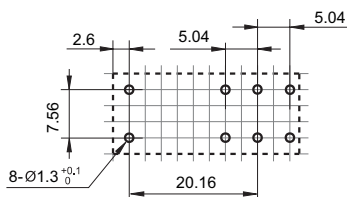
3.5mm 1Pole 12A



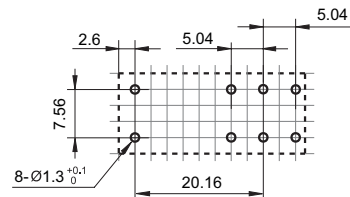
5mm 1Pole 12A



5mm 1Pole 16A



5mm 2Pole 8A



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.

## OUTLINE DIMENSIONS, WIRING DIAGRAM AND PC BOARD LAYOUT

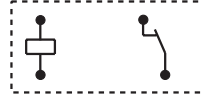
Unit: mm

### Wiring Diagram (Bottom view)

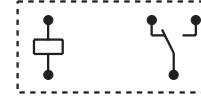
HF115F-A/ □□□ -□□ -□ -1/2, 3.5/5mm Pinning, 1 Pole, 12A



1 Form A



1 Form B



1 Form C

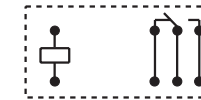
HF115F-A/ □□□ -□□ -□ -3, 5mm Pinning, 1 Pole, 16A



1 Form A



1 Form B



1 Form C

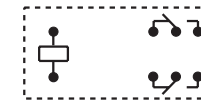
HF115F-A/ □□□ -□□ -□ -4, 5mm Pinning, 2 Pole, 8A



2 Form A



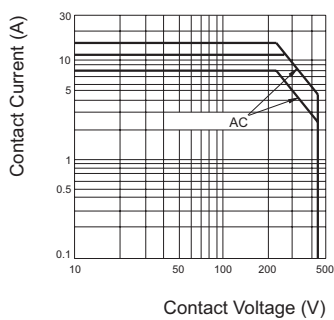
2 Form B



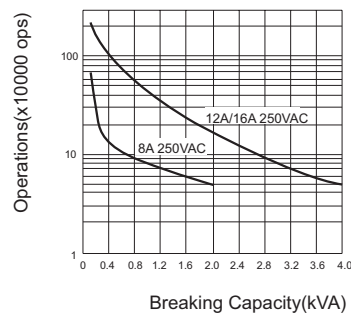
2 Form C

## CHARACTERISTIC CURVES

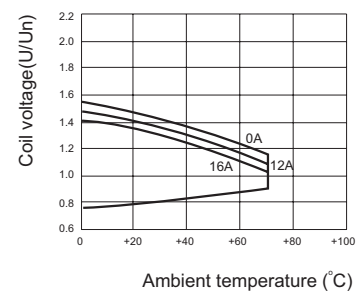
MAXIMUM SWITCHING POWER



ENDURANCE CURVE



COIL OPERATING RANGE (AC)



### 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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