

HF14FF**MINIATURE HIGH POWER RELAY**

File No.:E134517



File No.:R50140759



File No.:CQC09002035073

**Features**

- 10A switching capability
- 5kV dielectric strength (between coil and contacts)
- Sockets available
- Plastic sealed and dust protected types available
- UL insulation system: Class F available
- Environmental friendly product (RoHS compliant)
- Outline Dimensions: (29.0 x 13.0 x 26.0) mm

CONTACT DATA

Contact arrangement	1A, 1C
Contact resistance	50mΩ max.(at 1A 24VDC)
Contact material	AgSnO ₂ , AgNi, AgCdO
Contact rating	Resistive: 10A 277VAC/30VDC TV-5 120VAC
Max. switching voltage	277VAC / 30VDC
Max. switching current	10A
Max. switching power	2770VA / 300W
Mechanical endurance	1 x 10 ⁷ OPS
Electrical endurance	1 x 10 ⁵ 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
Operate time (at nomi. volt.)		15ms max.
Release time (at nomi. volt.)		5ms max.
Vibration resistance		10Hz to 55Hz 1.5mm DA
Shock resistance	Functional	98m/s ²
	Destructive	980m/s ²
Humidity		5% to 85% RH
Ambient temperature		-40°C to 70°C
Termination		PCB
Unit weight		Approx. 18g
Construction		Plastic sealed, Dust protected

- Notes:** 1) The data shown above are initial values.
 2) Please find coil temperature curve in the characteristic curves below.
 3) UL insulation system: Class F, Class B.

COIL

Coil power	Approx. 530mW
------------	---------------

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
3	2.25	0.3	4.2	17 x (1±10%)
5	3.75	0.5	7.0	47 x (1±10%)
6	4.50	0.6	8.4	68 x (1±10%)
9	6.75	0.9	12.6	160 x (1±10%)
12	9.00	1.2	16.8	275 x (1±10%)
18	13.5	1.8	25.2	620 x (1±10%)
24	18.0	2.4	33.6	1100 x (1±10%)
48	36.0	4.8	67.2	4170 x (1±10%)
60	45.0	6.0	84.0	7000 x (1±10%)

Notes: When requiring pick-up voltage < 75% of nominal voltage, special order allowed.

SAFETY APPROVAL RATINGS

UL/CUL	AgCdO	1 Form A	TV-5 120VAC 10A 277VAC General purpose 10A 30VDC Resistive 1/3HP 250VAC 1/4HP 125VAC
		1 Form C	TV-5 120VAC 10A 277VAC General purpose 10A 30VDC Resistive 1/3HP 250VAC NO:1/4HP 125VAC
	AgSnO ₂ AgNi		10A 277VAC General purpose 10A 30VDC Resistive 1/3HP 250VAC 1/4HP 125VAC TV-5 120VAC
	TÜV		AgCdO AgSnO ₂ 10A 250VAC 10A 30VDC

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

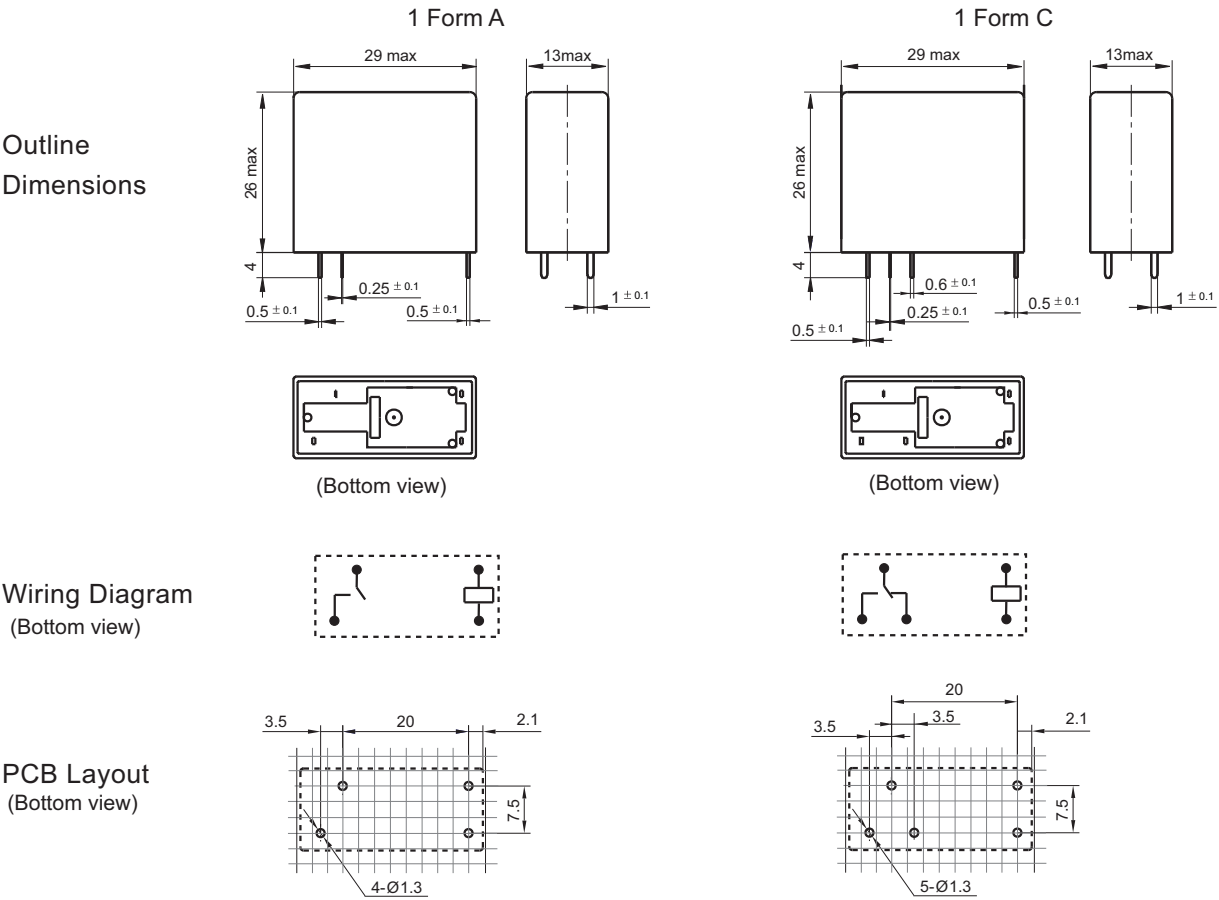
ORDERING INFORMATION								
	HF14FF /		012	-1H	S	T	F	(XXX)
Type								
Coil voltage	3, 5, 6, 9, 12, 18, 24, 48, 60VDC							
Contact arrangement	1H: 1 Form A		1Z: 1 Form C					
Construction ¹⁾	S: Plastic sealed		Nil: Dust protected					
Contact material	T: AgSnO ₂		3: AgNi		Nil: AgCdO			
Insulation standard	F: Class F		Nil: Class B					
Customer special code								

Notes:1) We recommend dust protected types for a clean environment (free from contaminations like H₂S, SO₂, NO₂, dust, etc.).
We suggest to choose plastic sealed types and validate it in real application for an unclean environment (with contaminations like H₂S, SO₂, NO₂, dust, etc).
If water cleaning is required after the relay is assembled on PCB, please contact us for suggestion about suitable parts.

2) The standard type is made of black cover. If smoke cover is required, please add a special suffix (611) when ordering. Please take note that smoke cover is only available for dust protected type.

OUTLINE DIMENSIONS, WIRING DIAGRAM AND PC BOARD LAYOUT

Unit: mm

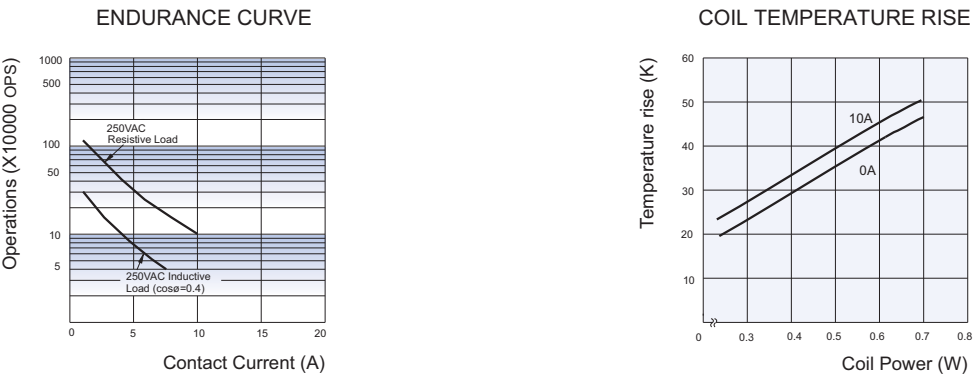


Remark: 1) In case of no tolerance shown in outline dimension: outline dimension ≤1mm, tolerance should be ±0.2mm; outline dimension >1mm and ≤5mm, tolerance should be ±0.3mm; outline dimension >5mm, tolerance should be ±0.4mm.

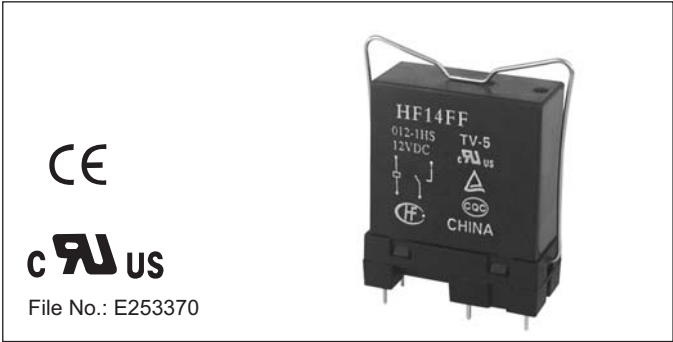
2) The tolerance without indicating for PCB layout is always ±0.1mm.

3) The width of the gridding is 2.5mm.

CHARACTERISTIC CURVES



Relay Sockets



Features

- The dielectric strength can reach 5000VAC(I/O) and the insulation resistance is 1000MΩ
- Three mounting types are available: PCB, screw mounting and DIN rail mounting.
- With finger protection device
- Many kinds of plug-in modules are available with the function of energizing indication and wiring protection.
- Environmental friendly product (RoHS compliant)

CHARACTERISTICS

Type	Nominal Voltage	Nominal Current	Ambient Temperature	Dielectric Strength min.	Screw Torque	Wire Strip Length
14FF-1Z-A1	250VAC	10A	-40 °C to 70°C	5000VAC	—	—
14FF-1Z-C2	250VAC	10A	-40 °C to 70°C	5000VAC	0.6N · m	7mm
14FF-1Z-C3	250VAC	10A	-40 °C to 70°C	5000VAC	0.6N · m	7mm


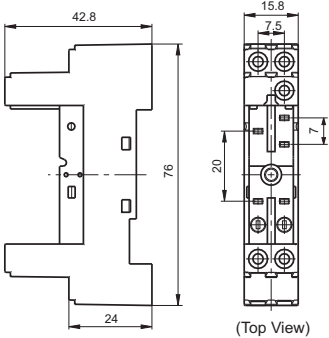
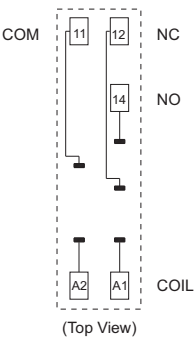

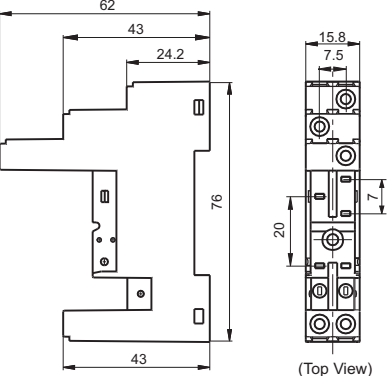
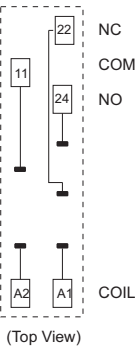
OUTLINE DIMENSIONS, WIRING DIAGRAM AND PC BOARD LAYOUT

Unit: mm

Socket	Outline Dimensions	Wiring Diagram / PCB Layout	Components Available
<div>14FF-1Z-A1</div> <div></div> <div>PCB terminal, PCB or Screw mounting</div>	<div></div> <div>(Top View)</div>	<div></div> <div>(Top View)</div>	metallic retainer 14FF-H2

OUTLINE DIMENSIONS, WIRING DIAGRAM AND PC BOARD LAYOUT

Unit: mm

Socket	Outline Dimensions	Wiring Diagram / PCB Layout	Components Available
<div>14FF-1Z-C2</div> <div></div> <div>Screw terminal, PCB or Screw mounting With finger protection device</div>	<div></div> <div>(Top View)</div>	<div></div> <div>(Top View)</div>	<div>plastic retainer 14FF-H6</div> <div>marker 14FF-M1</div> <div>jumper 14FF-J1</div> <div>plug-in module HFAA to HFHU*</div>
<div>14FF-1Z-C3</div> <div></div> <div>Screw terminal DIN rail or Screw mounting With finger protection device</div>	<div></div> <div>(Top View)</div>	<div></div> <div>(Top View)</div>	<div>plastic retainer 14FF-H6</div> <div>marker 14FF-M1</div> <div>jumper 14FF-J1</div> <div>plug-in module HFAA to HFHU*</div>

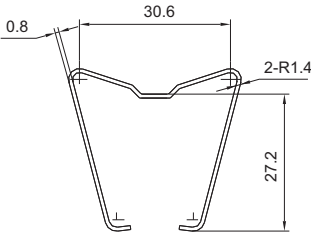
Notes: * Please refer to the product datasheet if plug-in module is required.

DIMENSION OF RELATED COMPONENT (AVAILABLE)

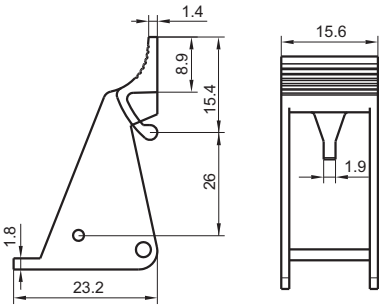
Unit: mm

Retainer

14FF-H2 (metallic retainer)

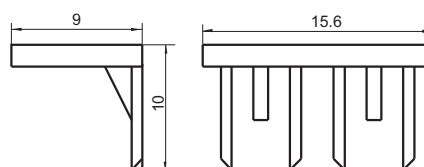
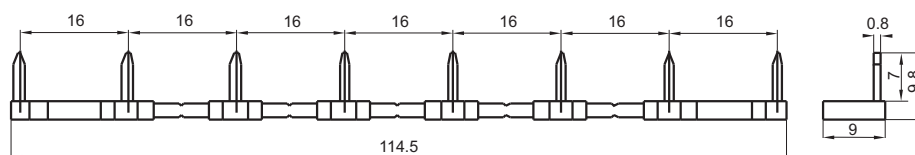


14FF-H6 (Plastic retainer)



DIMENSION OF RELATED COMPONENT (AVAILABLE)

Unit: mm

Marker**14FF-M1****Jumper****14FF-J1****Things to be noticed when selecting sockets:**

1. Please choose suitable relay socket according to the actual mounting environment, relay contact poles and terminal layout. If there is any query on selection, please contact Hongfa for the technical service.
2. Socket which can be mounted with markers is furnished with a marker; as for other related components, they should be selected separately. Please do give clear indication of the types of relay sockets and related components you choose while placing order.
3. The above is only an example of typical socket and related component type which is suitable to HF14FF relay. If you have any special requirements, please contact us.

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.

© Xiamen Hongfa Electroacoustic Co., Ltd. All rights of Hongfa are reserved.