

# HF13F

# MINIATURE INTERMEDIATE POWER RELAY



File No.:E133481



File No.:R50154518



File No.:CQC09002030028 (DC type)  
CQC09002030029 (AC type)



### Features

- 15A switching capability
- 1.5kV dielectric strength (between coil and contacts)
- Various terminals available
- Sockets available
- Conform to the CE low voltage directive
- 1 & 2 pole configurations
- Environmental friendly product (RoHS compliant)
- Outline Dimensions: (28.0 x 21.5 x 35.0)mm

### CONTACT DATA

Contact arrangement	1C	2C
Contact resistance	100mΩ (at 1A 6VDC)	
Contact material	See ordering info.	
Contact rating (Res. load)	1C: 15A 250VAC/30VDC	2C: 10A 250VAC/30VDC
Max. switching voltage	250VAC / 30VDC	
Max. switching current	15A	10A
Max. switching power	3750VA/450W	2500VA/300W
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	500MΩ (at 500VDC)	
Dielectric strength	Between coil & contacts	1500VAC 1min
	Between open contacts	1000VAC 1min
	Between contact sets	1500VAC 1min
Operate time (at nomi. volt.)	25ms max.	
Release time (at nomi. volt.)	25ms max.	
Temperature rise (no-load, at nomi.volt.)	60K max.	
Shock resistance	Functional	98m/s <sup>2</sup>
	Destructive	980m/s <sup>2</sup>
Vibration resistance	10Hz to 55Hz 1mm DA	
Humidity	98% RH, 40°C	
Ambient temperature	-40°C to 70°C	
Termination	PCB, Plug-in	
Unit weight	Approx. 37g	
Construction	Dust protected	

Notes: The data shown above are initial values.

### COIL

Coil power	DC type: 0.9 to 1.1W AC type: 1.2 to 1.8VA
------------	---

### COIL DATA

at 23°C

Nominal Voltage VDC	Pick-up Voltage VDC	Drop-out Voltage VDC	Max. Allowable Voltage VDC	Coil Resistance Ω
5	4.0	0.5	5.5	27.5 x (1±10%)
6	4.8	0.6	6.6	40 x (1±10%)
12	9.6	1.2	13.2	160 x (1±10%)
24	19.2	2.4	26.4	650 x (1±10%)
48	38.4	4.8	52.8	2600 x (1±10%)
110	88.0	11.0	121	11000 x (1±10%)

Nominal Voltage VAC	Pick-up Voltage VAC	Drop-out Voltage VAC	Max. Allowable Voltage VAC	Coil Resistance Ω
6	4.80	1.8	6.6	11.5 x (1±10%)
12	9.60	3.6	13.2	46 x (1±10%)
24	19.2	7.2	26.4	184 x (1±10%)
48	38.4	14.4	52.8	735 x (1±10%)
120	96.0	36.0	132	4550 x (1±10%)
220/240	176.0	72.0	264	14400 x (1±10%)

### SAFETY APPROVAL RATINGS

UL/CUL	AgCdO	1 Z	15A 250VAC/30VDC
	AgCe	1 Z	15A 250VAC/30VDC
		2 Z	10A 250VAC/30VDC 1/3 HP 240VAC/120VAC
TÜV		2 Z	10A 250VAC/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

2009 Rev. 1.02

## ORDERING INFORMATION

Type	HF13F /	A	012	-2Z	1	1	D	(XXX)
Coil voltage form	A: AC Nil: DC							
Coil voltage	DC: 5 to 110VDC AC: 6 to 240VAC							
Contact arrangement	1Z: 1 Form C 2Z: 2 Form C							
Mounting termination ( See the following )	1: Socket 2: PCB 5: Flange-Mounting							
Contact material	1: AgCe Nil: AgCdO							
LED	D: With LED Nil: Without LED							
<b>Customer special code</b>								

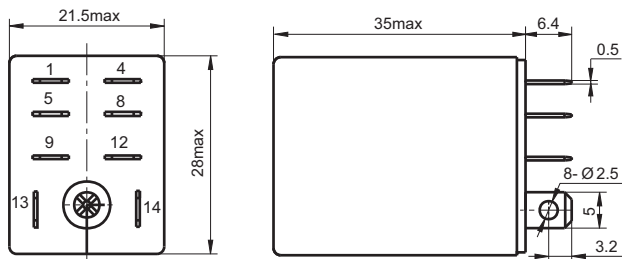
Notes: 1) We also can supply the special type with terminals numbered 1,2,3,4,5,6,7,8.

## OUTLINE DIMENSIONS, WIRING DIAGRAM AND PC BOARD LAYOUT

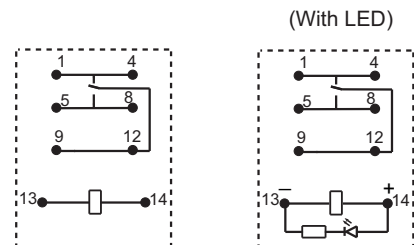
Unit: mm

HF13F/□□□□ -1Z1□

Outline Dimensions



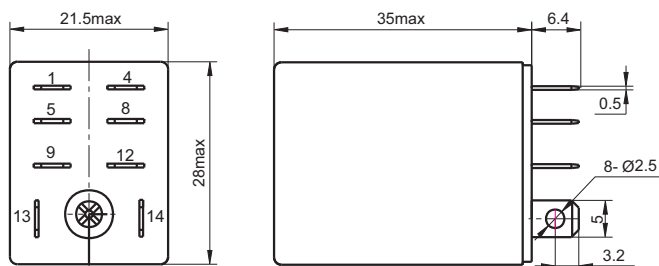
Wiring Diagram  
(Bottom view)



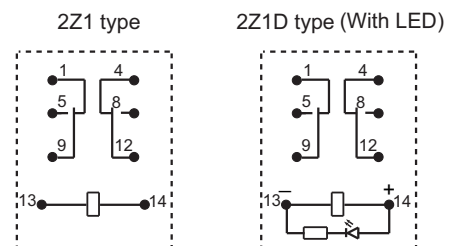
Remark: For AC parts with diode, the positive and negative pole markings on wiring diagram are not applicable.

HF13F/□□□□ -2Z1□

Outline Dimensions



Wiring Diagram  
(Bottom view)



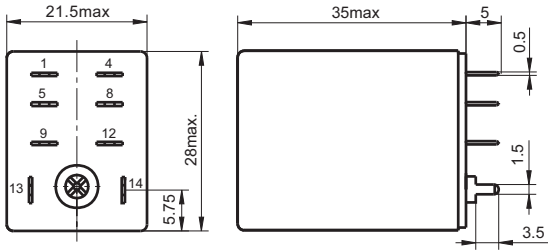
Remark: For AC parts with diode, the positive and negative pole markings on wiring diagram are not applicable.

# OUTLINE DIMENSIONS, WIRING DIAGRAM AND PC BOARD LAYOUT

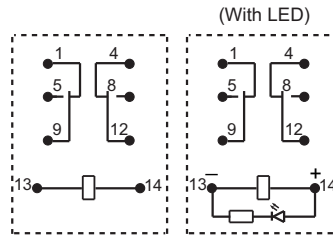
Unit: mm

HF13F/□□□□ -Z2□

Outline Dimensions

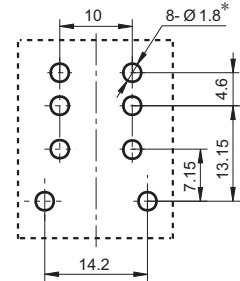


Wiring Diagram  
(Bottom view)



Remark: For AC parts with diode, the positive and negative pole markings on wiring diagram are not applicable.

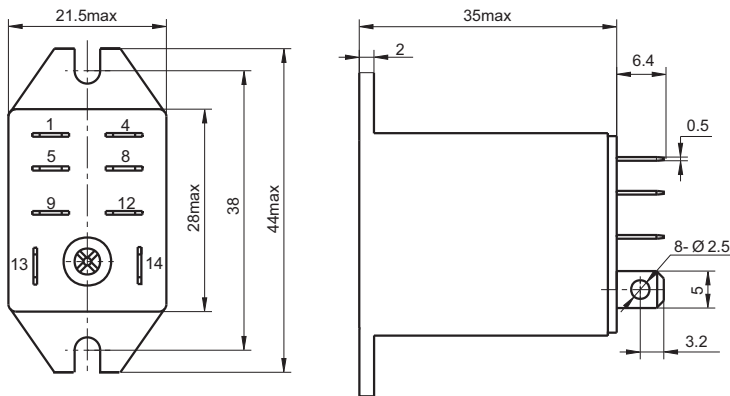
PCB Layout  
(Bottom view)



\*: Please adjust the site of this diameter according to the actual application.

HF13F/□□□□ -Z25□

Outline Dimensions



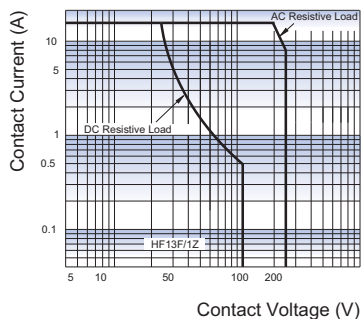
Mounting holes



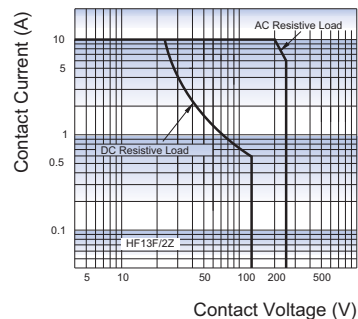
Remark: 1) In case of no tolerance shown in outline dimension: outline dimension  $\leq 1\text{mm}$ , tolerance should be  $\pm 0.2\text{mm}$ ; outline dimension  $> 1\text{mm}$  and  $\leq 5\text{mm}$ , tolerance should be  $\pm 0.3\text{mm}$ ; outline dimension  $> 5\text{mm}$ , tolerance should be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

## CHARACTERISTIC CURVES

MAXIMUM SWITCHING POWER(1C)



MAXIMUM SWITCHING POWER(2C)



### 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.