

# HF42F

# SUBMINIATURE INTERMEDIATE POWER RELAY



File No.:E133481



File No.:R50188744



File No.:CQC09002034521



## Features

- 5A switching capability
- TV-3 125VAC approved by UL standard
- 2 Form A slim configuration
- Plastic sealed and flux proofed types available
- Environmental friendly product (RoHS compliant)
- Outline Dimensions: (23.6 x 12.0 x 24.8) mm

## CONTACT DATA

Contact arrangement	2A
Contact resistance	100mΩ max. (at 1A 6VDC)
Contact material	AgSnO <sub>2</sub> , AgCdO
Contact rating (Res. load)	5A 250VAC/30VDC
Max. switching voltage	250VAC / 30VDC
Max. switching current	5A
Max. switching power	1250VA / 150W
Mechanical endurance	1 x 10 <sup>7</sup> ops
Electrical endurance	5 x 10 <sup>4</sup> ops

## CHARACTERISTICS

Insulation resistance	1000MΩ (at 500VDC)	
Dielectric strength	Between coil & contacts	4000VAC 1min
	Between open contacts	1000VAC 1min
	Between contact sets	2000VAC 1min
Operate time (at nomi. volt.)	15ms max.	
Release time (at nomi. volt.)	10ms max.	
Humidity	5% to 85% RH	
Ambient temperature	-40°C to 70°C	
Shock resistance	Functional	98m/s <sup>2</sup>
	Destructive	980m/s <sup>2</sup>
Vibration resistance	10Hz to 55Hz 1.5mm DA	
Termination	PCB	
Unit weight	Approx. 14.5g	
Construction	Plastic sealed, Flux proofed	

- 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 A

## COIL

Coil power	Approx. 530mW
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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	3.75	0.25	6.5	47 x (1±10%)
6	4.50	0.30	7.8	68 x (1±10%)
9	6.75	0.45	11.7	155 x (1±10%)
12	9.00	0.60	15.6	270 x (1±10%)
18	13.5	0.90	23.4	620 x (1±10%)
24	18.0	1.20	31.2	1080 x (1±10%)
48	36.0	2.40	62.4	4400 x (1±10%)

## SAFETY APPROVAL RATINGS

UL/CUL	5A 250VAC
	5A 30VDC
	TV-3 125VAC
TÜV	5A 250VAC
	5A 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

Type	HF42F / 012 -2H S T (XXX)
Coil voltage	5, 6, 9, 12, 18, 24, 48VDC
Contact arrangement	2H: 2 Form A
Construction <sup>1)</sup>	S: Plastic sealed Nil: Flux proofed
Contact material	T: AgSnO <sub>2</sub> Nil: AgCdO

### Customer special code

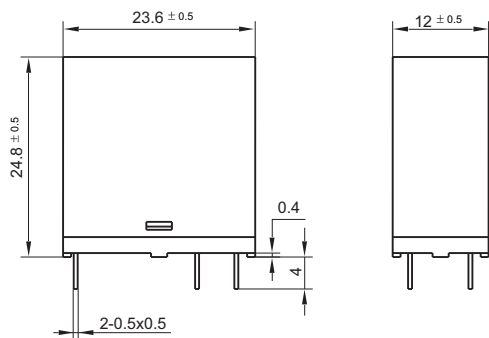
**Notes:** 1) Under the ambience with dangerous gas like H<sub>2</sub>S, SO<sub>2</sub> or NO<sub>2</sub>, plastic sealed type is recommended; Please test the relay in real applications. If the ambience allows, flux proofed type is preferentially recommended.  
If water cleaning is required after the relay is assembled on PCB, please contact us for suggestion about suitable parts.

## OUTLINE DIMENSIONS, WIRING DIAGRAM AND PC BOARD LAYOUT

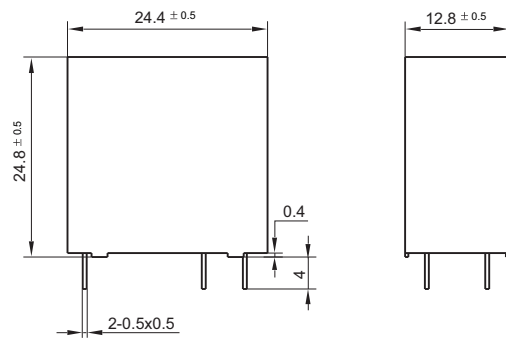
Unit: mm

### Outline Dimensions

Flux proofed type



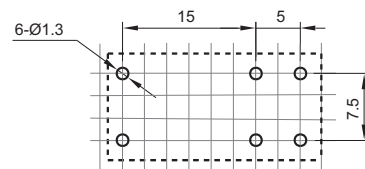
Plastic sealed type



Wiring Diagram  
(Bottom view)



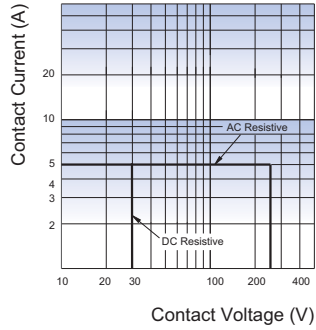
PCB Layout  
(Bottom view)



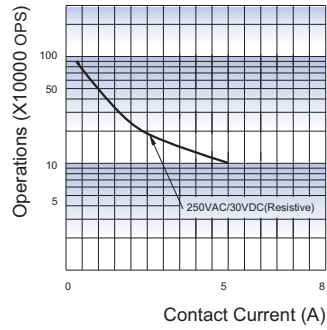
- Remark: 1) In case of no tolerance shown in outline dimension: outline dimension  $\leq 1$ mm, tolerance should be  $\pm 0.2$ mm; outline dimension  $> 1$ mm and  $\leq 5$ mm, tolerance should be  $\pm 0.3$ mm; outline dimension  $> 5$ mm, tolerance should be  $\pm 0.4$ mm.  
2) The tolerance without indicating for PCB layout is always  $\pm 0.1$ mm.  
3) The width of the gridding is 2.5mm.

## CHARACTERISTIC CURVES

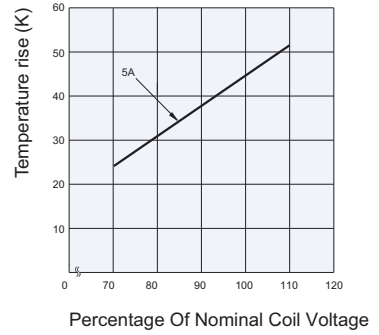
MAXIMUM SWITCHING POWER



ENDURANCE CURVE



COIL TEMPERATURE RISE



### 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.