

# HF42F

## SUBMINIATURE INTERMEDIATE POWER RELAY



File No.:E133481



File No.:R50356443



File No.:CQC09002034521  
CQC16002159853



### Features

- 5A switching capability
- TV-3 125VAC approved by UL standard
- 2 Form A slim configuration
- Environmental friendly product (RoHS compliant)
- Outline Dimensions: (24.4 x 12.8 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>6</sup> OPS
Electrical endurance	2H: 5 x 10 <sup>4</sup> OPS (5A 250VAC, Resistive load, Room temp., 1.5s on 1.5s off)

### 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	

- 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  
4) For sealed type, the vent-hole cover should be excised.

### COIL

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

### COIL DATA

at 23°C

Nominal Voltage VDC	Pick-up Voltage VDC max.	Drop-out Voltage VDC min.	Max. 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%)

**Notes:** \*Maximum voltage refers to the maximum voltage which relay coil could endure in a short period of time.

### SAFETY APPROVAL RATINGS

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

- Notes:** 1) All values unspecified are at room temperature.  
2) Only typical loads are listed above. Other load specifications can be available upon request.



HONGFA RELAY

ISO9001, ISO/TS16949, ISO14001, OHSAS18001, IECQ QC 080000 CERTIFIED

2017 Rev. 1.00

## 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
Contact material	T: AgSnO <sub>2</sub> Nil: AgCdO
Special code <sup>2)</sup>	XXX: Customer special requirement Nil: Standard

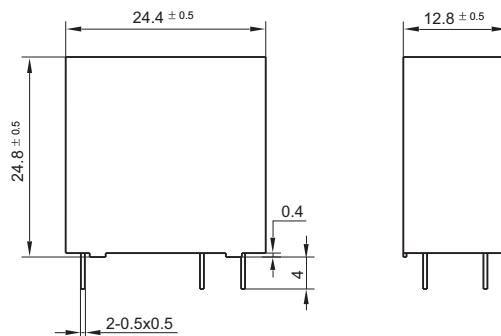
**Notes:** 1) Contact is recommended for suitable condition and specifications if water cleaning or surface process is involved in assembling relays on PCB.

2) The customer special requirement express as special code after evaluating by Hongfa.

## OUTLINE DIMENSIONS, WIRING DIAGRAM AND PC BOARD LAYOUT

Unit: mm

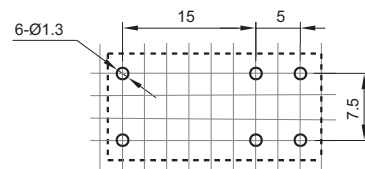
### Outline Dimensions



Wiring Diagram  
(Bottom view)



PCB Layout  
(Bottom view)



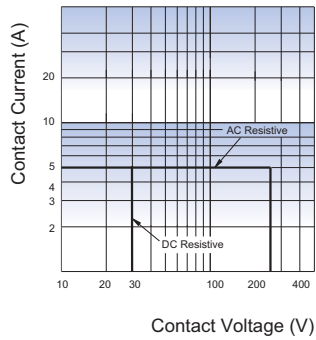
Remark: 1) In case of no tolerance shown in outline dimension: outline dimension  $\leq 1$ mm, tolerance should be  $\pm 0.2$ mm; outline dimension  $> 1$ mm and  $\leq 5$ mm, tolerance should be  $\pm 0.3$ mm; outline dimension  $> 5$ mm, tolerance should be  $\pm 0.4$ mm.

2) The tolerance without indicating for PCB layout is always  $\pm 0.1$ mm.

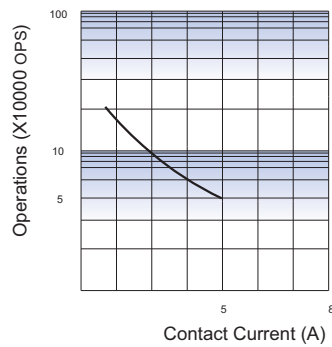
3) The width of the gridding is 2.5mm.

## CHARACTERISTIC CURVES

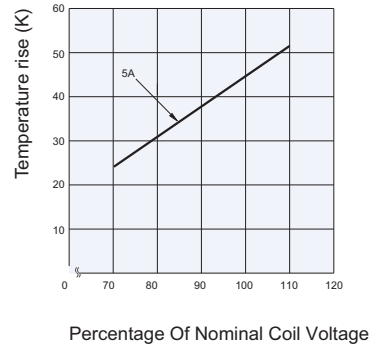
MAXIMUM SWITCHING POWER



ENDURANCE CURVE



COIL TEMPERATURE RISE



**Test conditions:**

5A 250VAC, Resistive load,  
Room temp., 1s on 9s off

**Disclaimer**

The specification is for reference only. See to "Terminology and Guidelines" for more information. Specifications 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.