

# HF7FF

# SUBMINIATURE INTERMEDIATE POWER RELAY



File No.:E134517



File No.:CQC09002028260



### Features

- 10A switching capability
- 1 Form A and 1 Form C configurations
- Plastic sealed and flux proofed types available
- Environmental friendly product (RoHS compliant)
- Outline Dimensions: (22.5 x 16.5 x 16.5) mm

### CONTACT DATA

Contact arrangement	1A, 1C
Contact resistance	100mΩ (at 1A 6VDC)
Contact material	AgSnO <sub>2</sub> , AgCe
Contact rating (Res. load)	5A 250VAC/30VDC 10A 250VAC/28VDC
Max. switching voltage	250VAC / 30VDC
Max. switching current	10A
Max. switching power	2400VA / 280W
Mechanical endurance	1 x 10 <sup>7</sup> OPS
Electrical endurance	1 x 10 <sup>5</sup> OPS

### COIL

Coil power	5VDC to 24VDC: 360mW; 48VDC: 510mW
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### COIL DATA

at 23°C

Nominal Voltage VDC	Pick-up Voltage VDC	Drop-out Voltage VDC	Max. Allowable Voltage VDC	Coil Resistance Ω
3	2.40	0.3	3.6	25 x (1±10%)
5	4.00	0.5	6.0	70 x (1±10%)
6	4.80	0.6	7.2	100 x (1±10%)
9	7.20	0.9	10.8	225 x (1±10%)
12	9.60	1.2	14.4	400 x (1±10%)
18	14.4	1.8	21.6	900 x (1±10%)
24	19.2	2.4	28.8	1600 x (1±10%)
48	38.4	4.8	57.6	4500 x (1±10%)

### CHARACTERISTICS

Insulation resistance	100MΩ (at 500VDC)	
Dielectric strength	Between coil & contacts	1500VAC 1min
	Between open contacts	750VAC 1min
Operate time (at nomi. volt.)	10ms max.	
Release time (at nomi. volt.)	5ms max.	
Shock resistance	Functional	98m/s <sup>2</sup>
	Destructive	980m/s <sup>2</sup>
Vibration resistance	10Hz to 55Hz 1.5mm DA	
Humidity	35% to 95% RH	
Ambient temperature	-40°C to 70°C	
Termination	PCB	
Unit weight	Approx. 13g	
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.

### SAFETY APPROVAL RATINGS

UL/CUL (AgCe)	1 Form C	NO: 10A 277VAC NO/NC: 5A 277VAC NO: 5A 30VDC NO: 4FLA 4LRA 120VAC NC: 2FLA 4LRA 120VAC
	1 Form A	10A 277VAC 6A 30VDC
UL/CUL (AgSnO <sub>2</sub> )	1 Form C	12A 277VAC 12A 28VDC
	1 Form A	12A 277VAC 12A 28VDC

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

2010 Rev. 1.00

## ORDERING INFORMATION

Type	HF7FF / 012 -1H T S (XXX)		
Coil voltage	3, 5, 6, 9, 12, 18, 24, 48VDC		
Contact arrangement	1H: 1 Form A	1Z: 1 Form C	
Contact material	T: AgSnO <sub>2</sub> (10A)	Nil: AgCe (5A)	
Construction <sup>1)</sup>	S: Plastic sealed	Nil: Flux proofed	

### 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.
- 2) If the application belongs to inductive load, AgSnO<sub>2</sub>In<sub>2</sub>O<sub>3</sub> contact material is recommended. Please add a special suffix (325) to stand for this special contact material in the ordering information.

## OUTLINE DIMENSIONS, WIRING DIAGRAM AND PC BOARD LAYOUT

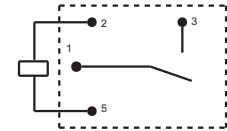
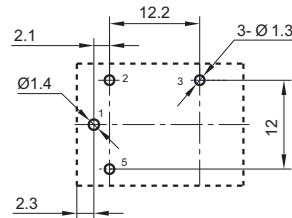
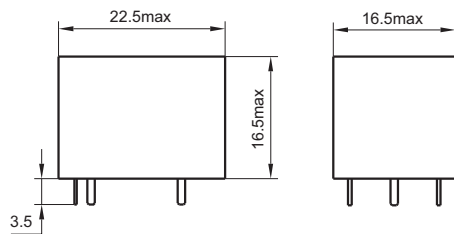
Unit: mm

### Outline Dimensions

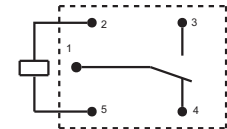
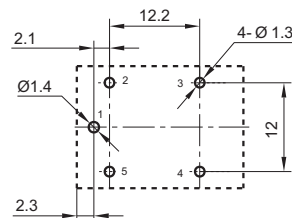
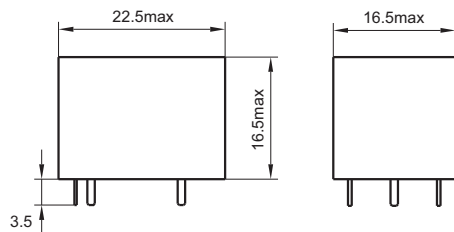
### PCB Layout (Bottom view)

### Wiring Diagram (Bottom view)

#### 1 Form A



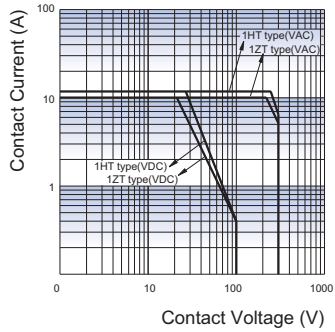
#### 1 Form C



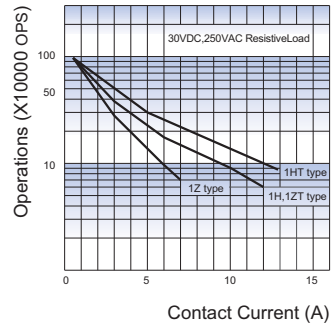
- Remark: 1) In case of no tolerance shown in outline dimension: outline dimension  $\leq 1$ mm, tolerance should be  $\pm 0.2$ mm; outline dimension  $> 1$ mm and  $\leq 5$ mm, tolerance should be  $\pm 0.3$ mm; outline dimension  $> 5$ mm, tolerance should be  $\pm 0.4$ mm.  
2) The tolerance without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

## CHARACTERISTIC CURVES

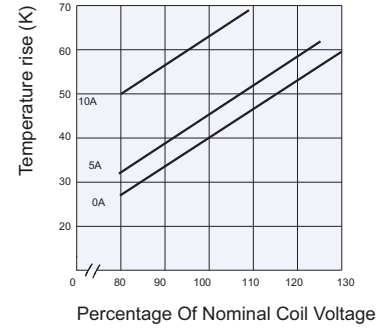
MAXIMUM SWITCHING POWER



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.