

# HF38F

## SUBMINIATURE INTERMEDIATE POWER RELAY



File No.:E133481



File No.:R50172340



File No.:CQC02001001944



### Features

- 5A switching capability
- 1 Form A and 1 Form C
- Standard and sensitive coils available
- Plastic sealed and flux proofed types available
- Environmental friendly product (RoHS compliant)
- Outline Dimensions: (20.5 x 10.5 x 20.5) mm

### CONTACT DATA

Contact arrangement	1A, 1C
Contact resistance	100mΩ (at 1A 6VDC)
Contact material	See ordering info.
Contact rating (Res. load)	NO: 5A 250VAC/30VDC NC: 3A 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	1 x 10 <sup>5</sup> OPS

### CHARACTERISTICS

Insulation resistance	1000MΩ (at 500VDC)	
Dielectric strength	Between coil & contacts	2000VAC 1min
	Between open contacts	1000VAC 1min
Operate time (at nomi. volt.)	10ms max.	
Release time (at nomi. volt.)	5ms max.	
Humidity	45% to 85% RH	
Ambient temperature	-40°C to 85°C	
Shock resistance	Functional	98m/s <sup>2</sup>
	Destructive	980m/s <sup>2</sup>
Vibration resistance	10Hz to 55Hz 3.3mm DA	
Termination	PCB	
Unit weight	Approx. 8g	
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.

### COIL

Coil power	Standard: 360mW; Sensitive: 250mW
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### COIL DATA

at 23°C

#### Standard Type

Nominal Voltage VDC	Pick-up Voltage VDC	Drop-out Voltage VDC	Max. Allowable Voltage VDC	Coil Resistance Ω
3	2.1	0.15	3.9	25 x (1±10%)
5	3.5	0.25	6.5	69 x (1±10%)
6	4.2	0.30	7.8	100 x (1±10%)
9	6.3	0.45	11.7	225 x (1±10%)
12	8.4	0.60	15.6	400 x (1±10%)
18	12.6	0.90	23.4	900 x (1±10%)
24	16.8	1.20	31.2	1600 x (1±10%)
48	33.6	2.40	62.4	6400 x (1±10%)

#### Sensitive Type

Nominal Voltage VDC	Pick-up Voltage VDC	Drop-out Voltage VDC	Max. Allowable Voltage VDC	Coil Resistance Ω
3	2.2	0.15	3.9	36 x (1±10%)
5	3.6	0.25	6.5	100 x (1±10%)
6	4.3	0.30	7.8	145 x (1±10%)
9	6.5	0.45	11.7	325 x (1±10%)
12	8.6	0.60	15.6	575 x (1±10%)
18	13.0	0.90	23.4	1300 x (1±10%)
24	17.3	1.20	31.2	2310 x (1±10%)
48	34.6	2.40	62.4	9220 x (1±10%)



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

2010 Rev. 1.00

## SAFETY APPROVAL RATINGS

UL/CUL	1 Form A	AgCdO	5A 250VAC/30VDC
		AgNi AgSnO <sub>2</sub>	5A 250VAC
	1 Form C	AgCdO	NO: 5A 250VAC/30VDC NC: 3A 250VAC/30VDC
		AgNi AgSnO <sub>2</sub>	5A 250VAC
TÜV	1 Form A	AgCdO AgNi	5A 250VAC/30VDC at 85°C
	1 Form C	AgCdO AgNi	NO: 5A 250VAC/30VDC at 85°C NC: 3A 250VAC/30VDC at 85°C

Notes: Only some typical ratings are listed above. If more details are required, please contact us.

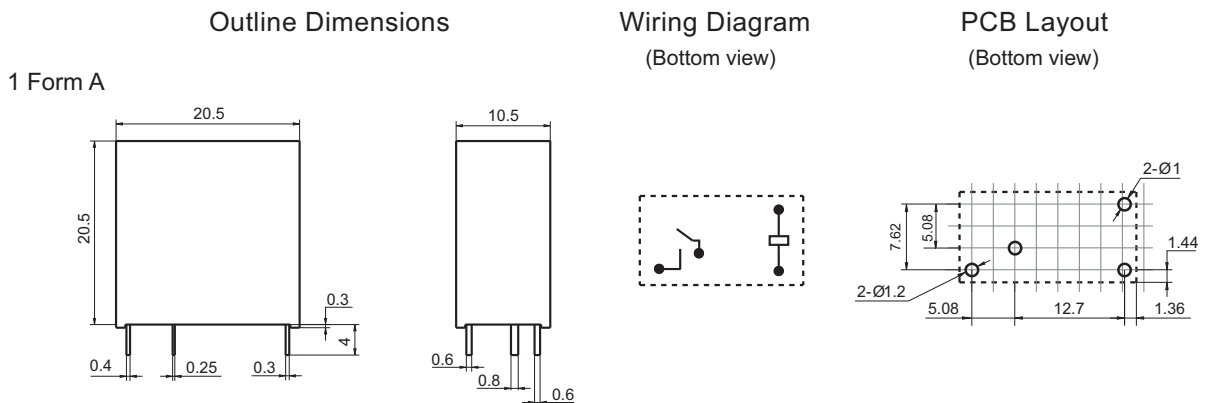
## ORDERING INFORMATION

Type	HF38F / 012 -H S L T (XXX)		
Coil voltage	3, 5, 6, 9, 12, 18, 24, 48VDC		
Contact arrangement	H: 1 Form A	Z: 1 Form C	
Construction <sup>1)</sup>	S: Plastic sealed	Nil: Flux proofed	
Coil power	L: Sensitive	Nil: Standard	
Contact material	T: AgSnO <sub>2</sub>	3: AgNi	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

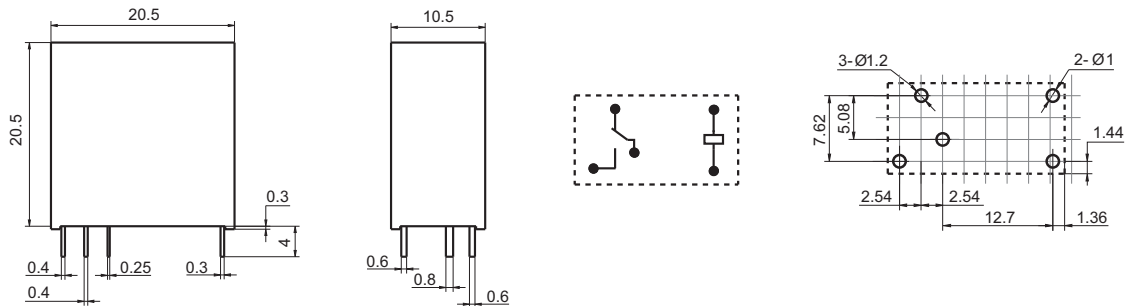
Unit: mm



## OUTLINE DIMENSIONS, WIRING DIAGRAM AND PC BOARD LAYOUT

Unit: mm

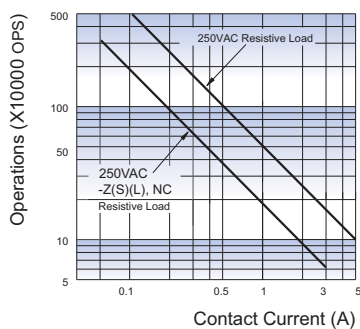
### 1 Form C



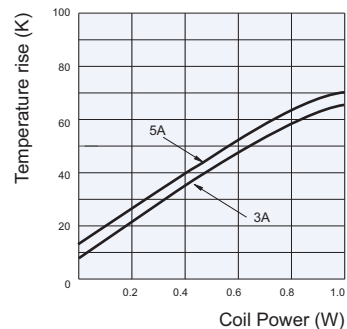
- Remark: 1) In case of no tolerance shown in outline dimension: outline dimension  $\leq 1\text{mm}$ , tolerance should be  $\pm 0.2\text{mm}$ ; outline dimension  $> 1\text{mm}$  and  $\leq 5\text{mm}$ , tolerance should be  $\pm 0.3\text{mm}$ ; outline dimension  $> 5\text{mm}$ , tolerance should be  $\pm 0.4\text{mm}$ .  
 2) The tolerance without indicating for PCB layout is always  $\pm 0.1\text{mm}$ .  
 3) The width of the gridding is 2.54mm.

## CHARACTERISTIC CURVES

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.

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