

# HF33F (JZC-33F)

# SUBMINIATURE INTERMEDIATE POWER RELAY



File No.:E134517



File No.:125661



File No.:CQC02001001949



## Features

- 10A switching capability
- Creepage distance: 8mm (both for 1 CO and NO)
- Clearance distance: NO type 4.5mm, NC type 4mm
- 1 Form A and 1 Form C configurations
- Subminiature, standard PCB layout
- Wash tight and flux proofed types available
- Environmental friendly product (RoHS compliant)
- Outline Dimensions: (20.5 x 10.2 x 15.3) mm

## CONTACT DATA

Contact arrangement	1A, 1C		
Contact resistance	100mΩ (at 1A 24VDC)		
Contact material	AgNi, AgCdO		
Contact rating (Res. load)	1A	1C	
		NO	NC
	5A 250VAC	5A 250VAC	3A 250VAC
	5A 30VDC	5A 30VDC	3A 30VDC
	10A 125VAC	10A 125VAC	
Max. switching current	10A	3A	
Max. switching power	1250VA / 150W	750VA / 90W	
Max. switching voltage	277VAC / 30VDC		
Mechanical endurance	1x 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	4000VAC 1min
	Between open contacts	1000VAC 1min
Operate time (at nomi. volt.)	8ms max.	
Release time (at nomi. volt.)	5ms max.	
Ambient temperature	-40°C to 70°C	
Humidity	35% to 95% RH	
Shock resistance	Functional	100m/s <sup>2</sup> (10g)
	Destructive	1000m/s <sup>2</sup> (100g)
Vibration resistance	10Hz to 55Hz 1.6mm DA	
Termination	PCB	
Unit weight	Approx. 7g	
Construction	Wash tight, 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: 450mW; Sensitive: 200mW
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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	2.25	0.15	3.9	20 x (1±10%)
5	3.75	0.25	6.5	55 x (1±10%)
6	4.50	0.30	7.8	80 x (1±10%)
9	6.75	0.45	11.7	180 x (1±10%)
12	9.00	0.60	15.6	320 x (1±10%)
18	13.5	0.90	23.4	720 x (1±10%)
24	18.0	1.20	31.2	1280 x (1±10%)
48	36.0	2.40	62.4	5120 x (1±10%)

### Sensitive Type (Only for 1 Form A)

Nominal Voltage VDC	Pick-up Voltage VDC	Drop-out Voltage VDC	Max. Allowable Voltage VDC	Coil Resistance Ω
3	2.25	0.15	4.5	45 x (1±10%)
5	3.75	0.25	7.5	125 x (1±10%)
6	4.50	0.30	9.0	180 x (1±10%)
9	6.75	0.45	13.5	400 x (1±10%)
12	9.00	0.60	18.0	720 x (1±10%)
18	13.5	0.90	27.0	1600 x (1±10%)
24	18.0	1.20	36.0	2800 x (1±10%)

## SAFETY APPROVAL RATINGS

UL&CUR	1 Form A	5A 250VAC/30VDC 8A 250VAC 10A 277VAC COSφ=0.5 1/10HP 125VAC, 1/6HP 250VAC
	1 Form C	3A 250VAC 3A 30VDC
VDE	1 Form A	5A 250VAC at 70°C
	1 Form C	5A/3A 250VAC at 70°C

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



HONGFA RELAY

ISO9001、ISO/TS16949、ISO14001、OHSAS18001 CERTIFIED

2007 Rev. 2.00

## ORDERING INFORMATION

<b>HF33F / 012 -H S L 3 G (XXX)</b>	
<b>Type</b> <sup>1)</sup>	HF33F JZC-33F (Old type)
<b>Coil voltage</b>	3, 5, 6, 9, 12, 18, 24, 48VDC
<b>Contact arrangement</b>	<b>H:</b> 1 Form A <b>Z:</b> 1 Form C
<b>Construction</b> <sup>2)</sup>	<b>S:</b> Wash tight <b>Nil:</b> Flux proofed
<b>Coil power</b>	<b>L:</b> Sensitive (Only for 1 Form A) <b>Nil:</b> Standard
<b>Contact material</b>	<b>3:</b> AgNi <b>Nil:</b> AgCdO
<b>Contact plating</b>	<b>G:</b> Glod plated <b>Nil:</b> No gold plated
<b>Customer special code</b> <sup>3)</sup>	e.g. (551) stands for RoHS compliant (Cadmium containing contacts) (Only for special requirements)      (555) stands for RoHS compliant (Cadmium-free contacts)

- Notes:** 1) We have now gradually updated our ordering information. We suggest new type should be selected. If necessary, old type can be kept for some period for the old customers.  
 2) Under the ambience with dangerous gas like H<sub>2</sub>S, SO<sub>2</sub> or NO<sub>2</sub>, wash tight type is recommended; please test the relay in real applications. If the ambience allows, flux proofed is preferentially recommended.  
 3) HF33F is an environmental friendly product. Please mark a special code (555) or (551) when ordering. (551) stands RoHS compliant with Cadmium contact; (555) stands for RoHS compliant with Cadmium-free contact.

## OUTLINE DIMENSIONS, WIRING DIAGRAM AND PC BOARD LAYOUT

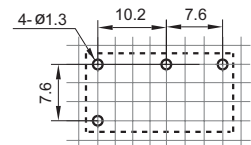
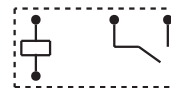
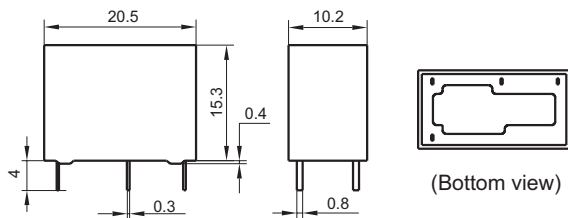
Unit: mm

### Outline Dimensions

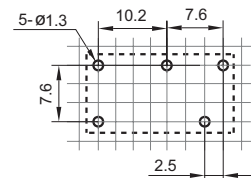
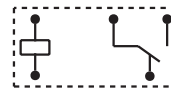
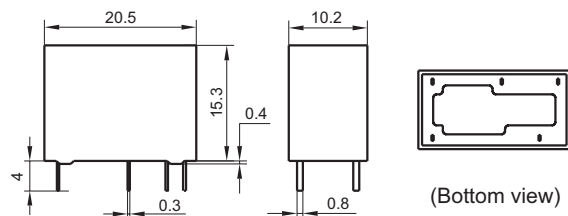
### Wiring Diagram (Bottom view)

### PCB Layout (Bottom view)

#### 1 Form A



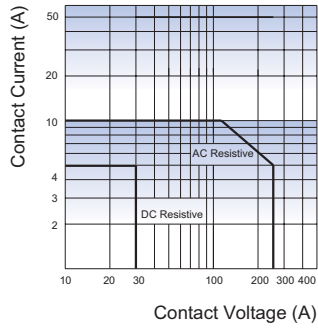
#### 1 Form C



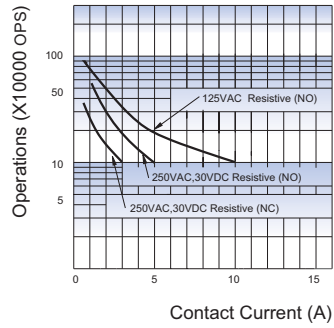
- Remark: 1) In case of no tolerance shown in outline dimension: outline dimension  $\leq 1\text{mm}$ , tolerance should be  $\pm 0.2\text{mm}$ ; outline dimension  $> 1\text{mm}$  and  $\leq 5\text{mm}$ , tolerance should be  $\pm 0.3\text{mm}$ ; outline dimension  $> 5\text{mm}$ , tolerance should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

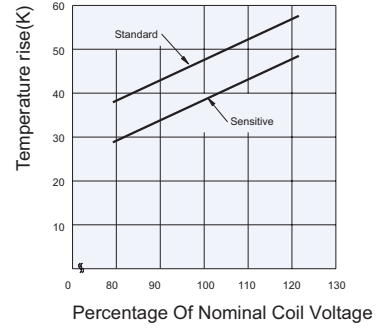
MAXIMUM SWITCHING POWER



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.