

# HF49F/49FA (JZC-49F/49FA)

# MINIATURE POWER RELAY



File No.:E133481



File No.:R50035304



File No.:CQC02001001937



## Features

- 5A switching capability
- 2kV dielectric strength (between coil and contacts)
- Slim size (width 5mm, height 12.5mm)
- High sensitive: Min. 120mW
- HF49FA's size and terminals compatible with HFS8 (Output module) and HF5420 SSR
- Sockets available
- Environmental friendly product (RoHS compliant)
- Outline Dimensions: (20.0 x 5.0 x 12.5) mm

## CONTACT DATA

Contact arrangement	1A
Contact Resistance	100mΩ (at 1A 6VDC)
Contact material	AgSnO <sub>2</sub> , AgNi
Contact rating (Res. load)	5A 250VAC/30VDC
Max. switching voltage	250VAC /30VDC
Max. switching current	5A
Max. switching power	1250VA / 150W
Mechanical endurance	2 x 10 <sup>7</sup> OPS
Electrical endurance	1x10 <sup>5</sup> OPS (See approval reports for more details)

## COIL

Coil power	120 to 180mW
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## COIL DATA

at 23°C

Nominal Voltage VDC	Pick-up Voltage VDC	Drop-out Voltage VDC	Max. Allowable Voltage VDC 85°C	Coil Resistance Ω
5	3.50	0.25	6.0	208 x (±10%)
6	4.20	0.30	7.2	300 x (±10%)
9	6.30	0.45	10.8	675 x (±10%)
12	8.40	0.60	14.4	1200 x (±10%)
18	12.6	0.90	21.6	2700 x (±15%)
24	16.8	1.20	28.8	3200 x (±15%)

**Notes:** All above data are tested when the relays terminals are downward position. Other positions of the terminals, the pick-up and drop-out voltages will have ± 5% tolerance. For example, when the relay terminals are transverse position, the max. pick-up voltage change is 75% of nominal voltage.

## 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.	
Shock resistance	Functional	100m/s <sup>2</sup> (10g)
	Destructive	1000m/s <sup>2</sup> (100g)
Vibration resistance	10Hz to 55Hz 1.5mm DA	
Humidity	5% to 85% RH	
Ambient temperature	-40°C to 85°C	
Termination	PCB	
Unit weight	Approx. 3g	
Construction	Wash tight	

**Notes:** 1) The data shown above are initial values.

2) Please find coil temperature curve in the characteristic curves below.

## SAFETY APPROVAL RATINGS

UL&CUR	Single contact	5A 30VDC L/R =0ms 5A 250VAC COSØ=1
	Bifurcated contact	3A 30VDC L/R =0ms 3A 250VAC COSØ=1
TÜV		5A 250VAC COSØ=1 5A 30VDC L/R=0ms

**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>HF49F /</b>		<b>012</b>	<b>-1H</b>	<b>1</b>	<b>T</b>	<b>F</b>	<b>(XXX)</b>
<b>Type</b> 1)		<b>HF49F/49FA</b> JZC-49F/49FA (Old type)							
<b>Coil voltage</b>		5, 6, 9, 12, 18, 24 VDC							
<b>Contact arrangement</b>		<b>1H: 1 Form A</b>							
<b>Contact version</b>		<b>1:</b> Single contact, no gold plated <b>1G:</b> Single contact, gold plated <b>2G:</b> Bifurcated contact, gold plated							
<b>Contact material</b>		<b>T:</b> AgSnO <sub>2</sub> (Only for single contact)				<b>Nil:</b> AgNi			
<b>Insulation standard</b>		<b>B:</b> Class B		<b>F:</b> Class F		<b>Nil:</b> Class A			
<b>Customer special code</b> 2)		Only for special requirements, e.g. (555) stands for RoHS compliant							

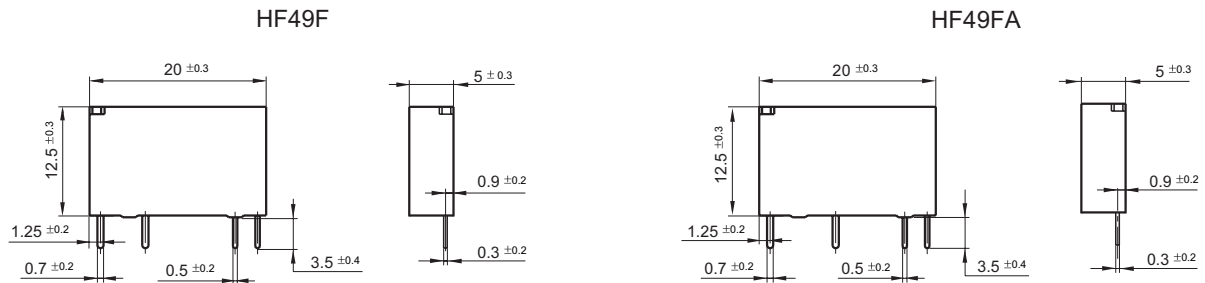
**Notes:** 1) We have now gradually updated our ordering information. We suggest new type should be selected. If necessary, old type can be kept for some period for the old customers.

2) HF49F/49FA is an environmental friendly product. Please mark a special code (555) when ordering.

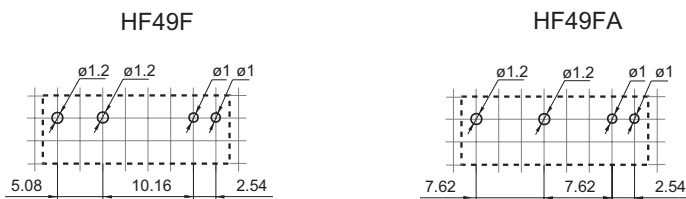
## OUTLINE DIMENSIONS, WIRING DIAGRAM AND PC BOARD LAYOUT

Unit: mm

### Outline Dimensions



### PCB Layout (Bottom view)



### Wiring Diagram (Bottom view)



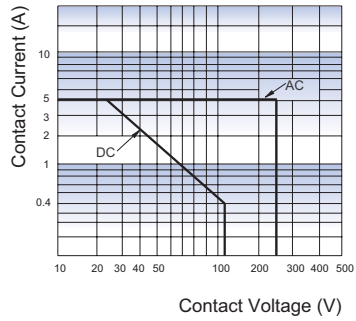
Remark: 1) In case of no tolerance shown in outline dimension: outline dimension  $\leq 1$ mm, tolerance should be  $\pm 0.2$ mm; outline dimension  $> 1$ mm and  $\leq 5$ mm, tolerance should be  $\pm 0.3$ mm; outline dimension  $> 5$ mm, tolerance should be  $\pm 0.4$ mm.

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

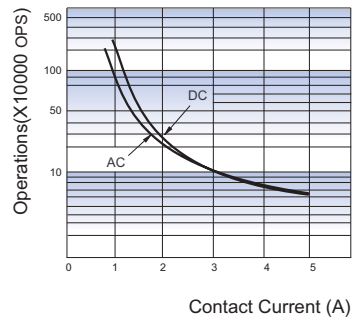
3) The width of the gridding is 2.54mm.

## CHARACTERISTIC CURVES

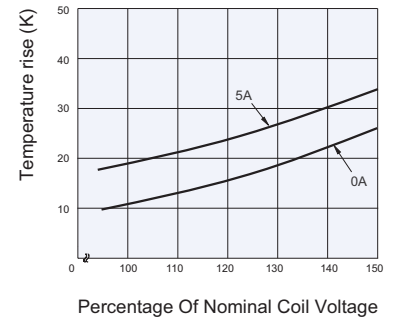
MAXIMUM SWITCHING POWER



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.

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