# HF49FD

## **MINIATURE POWER RELAY**



File No.:E133481



File No.:R50035304



(CQC)

File No.:CQC02001001937

#### Features

- 5A switching capability
- 3kV dielectric strength (between coil and contacts)
- Slim size (width 5mm, height 12.5mm)
- High sensitive: Min. 120mW
- HF49FD terminals compatible with HFS8 (Output module) and HFS20 SSR
- Sockets available

COIL DATA

- 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	AgSnO2, 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	1 x 10 <sup>5</sup> ops (See approval reports for more details)		

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CHAR	ACTER	STICS	
Insulation	resistance		1000MΩ (at 500VDC)
Dielectric Between coil & Between open		coil & contacts	3000VAC 1min
		open contacts	1000VAC 1min
Operate time (at nomi.volt.)		10ms max.	
Release time (at nomi.volt.)		5ms max.	
Shock resistance		Functional	98m/s²
		Destructive	980m/s²
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.

COIL		
Coil power	120 to 180mW	

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 (1±10%)
6	4.20	0.30	7.2	300 x (1±10%)
9	6.30	0.45	10.8	675 x (1±10%)
12	8.40	0.60	14.4	1200 x (1±10%)
18	12.6	0.90	21.6	2700 x (1±15%)
24	16.8	1.20	28.8	3200 x (1±15%)

Notes: 1) All above data are tested when the relays terminals are downward position. Other positions of the terminals, the pick-up and dropout voltages will have  $^{\pm}\,5\%$  tolerance. For example, when the relay terminals are transverse position, the max. pick-up voltage change is 75% of nominal voltage.

2) The max. allowable voltage in the COIL DATA is coil overdrive voltage, it is the instantaneous max. voltage which the relay coil could endure in a very short time.

SAFETY APPROVAL RATINGS		
UL&CUL	5A 30VDC L/R =0ms	
	5A 250VAC COSØ=1	
TÜV	5A 250VAC COSØ=1	
	5A 30VDC L/R=0ms	

CAFETY ADDDOVAL DATINGS

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

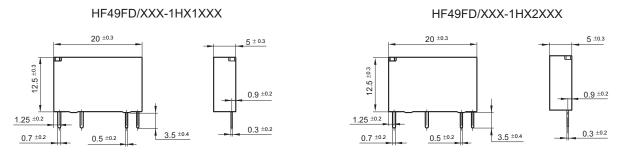


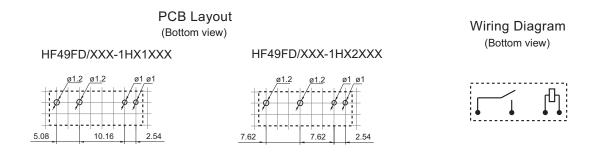
#### **ORDERING INFORMATION** -1H HF49FD / 012 1 2 G **Type** Coil voltage 5, 6, 9, 12,18, 24VDC **Contact arrangement 1H:** 1 Form A **Contact version** 1: Single contact 2: Bifurcated contact Space between terminals (See the following) **1:** 5.08mm **2:** 7.62mm **Contact plating** G: Gold plated Nil: No gold plated (Olny for single contact) **Contact material** T: AgSnO<sub>2</sub> Nil: AgNi **Insulation standard** F: Class F B: Class B Nil: Class A **Customer special code**

## **OUTLINE DIMENSIONS, WIRING DIAGRAM AND PC BOARD LAYOUT**

Unit: mm

#### **Outline Dimensions**



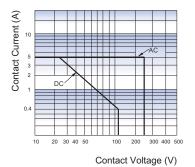


Remark: 1) In case of no tolerance shown in outline dimension: outline dimension ≤1mm, tolerance should be ±0.2mm; outline dimension >1mm and ≤5mm, tolerance should be ±0.3mm; outline dimension >5mm, tolerance should be ±0.4mm.

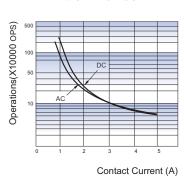
- 2) The tolerance without indicating for PCB layout is always ±0.1mm.
- 3) The width of the gridding is 2.54mm.

### CHARACTERISTIC CURVES

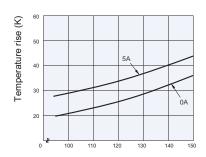
#### MAXIMUM SWITCHING POWER



#### **ENDURANCE CURVE**



#### COIL TEMPERATURE RISE



Percentage Of Nominal Coil Voltage

#### 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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