

# HF78F

# MINIATURE HIGH POWER RELAY



File No.: E133481



File No.: R50375929



File No.: CQC17002171481



## Features

- Small and for microwave oven
- 20A switching capability
- 4.0kV dielectric strength (between coil and contacts)
- Low height: 28.5 mm
- Environmental friendly product (RoHS compliant)
- Outline Dimensions: (25.5 x 12.5 x 28.5) mm

## CONTACT DATA

Contact arrangement	1A
Contact resistance	50mΩ max.(at 1A 6VDC)
Contact material	AgSnO <sub>2</sub>
Contact rating	16A 250VAC/24VDC 16A 30VDC
Max. switching voltage	277VAC / 32VDC
Max. switching current	20A
Max. switching power	4432VA / 512W
Mechanical endurance	1 x 10 <sup>7</sup> OPS

## CHARACTERISTICS

Insulation resistance	1200MΩ (at 500VDC)	
Dielectric strength	Between coil & contacts	4000VAC 1min
	Between open contacts	1500VAC 1min
Operate time (at nomi. volt.)	15ms 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	5% to 85% RH	
Ambient temperature	-40°C to 85°C	
Termination	PCB & QC	
Unit weight	Approx. 16g	
Construction	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	540mW
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## COIL DATA

at 23°C

Nominal Voltage VDC	Pick-up Voltage VDC max.	Drop-out Voltage VDC min.	Max. Voltage VDC *	Coil Resistance Ω
3	2.40	0.3	3.9	17.2 x (1±10%)
5	4.00	0.5	6.5	47.7x (1±10%)
6	4.80	0.6	7.8	68.8x (1±10%)
12	9.60	1.2	15.6	270 x (1±10%)
24	19.2	2.4	31.2	1100 x (1±10%)
36	28.8	3.6	46.8	2475x (1±15%)

**Notes:** \*Maximum voltage refers to the maximum voltage which relay coil could endure in a short period of time.

## SAFETY APPROVAL RATINGS

UL/CUL	16A 250VAC/30VDC
	20A 125VAC
TÜV	16A 250VAC/30VDC
	20A 125VAC

- Notes:** 1) All values unspecified are at room temperature.  
2) Only typical loads are listed above. Other load specifications can be available upon request.



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

2017 Rev. 1.00

## ORDERING INFORMATION

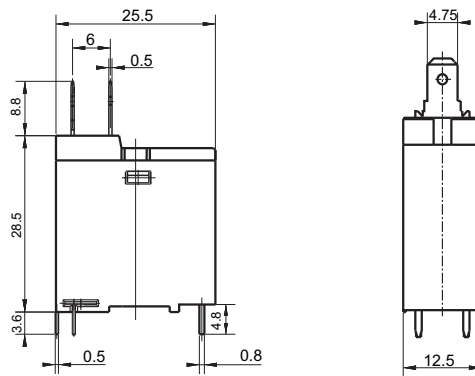
Type	HF78F / 12 -H 3 T F (XXX)					
Coil voltage	3, 5, 6, 12, 24, 36VDC					
Contact arrangement	1H: 1 Form A					
Termination	S: Plastic sealed		Nil: Dust protected			
Contact material	T: AgSnO <sub>2</sub>					
Insulation standard	F: Class F					
Special code <sup>1)</sup>	XXX: Customer special requirement		Nil: Standard			

Notes: 1) The customer special requirement express as special code after evaluating by Hongfa.

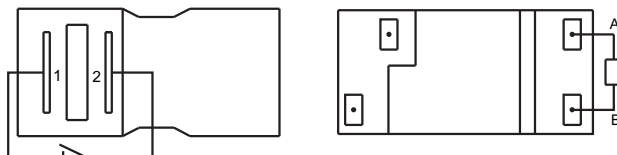
## OUTLINE DIMENSIONS, WIRING DIAGRAM AND PC BOARD LAYOUT

Unit: mm

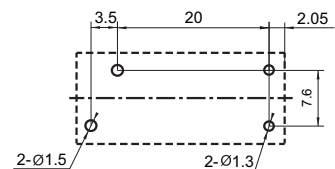
### Outline Dimensions



### Wiring Diagram (Bottom view)



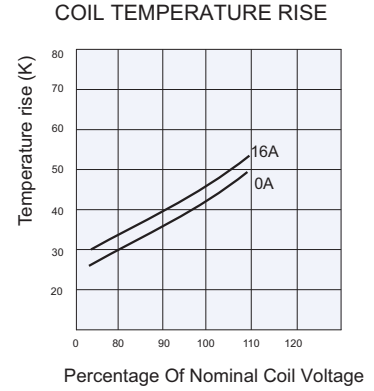
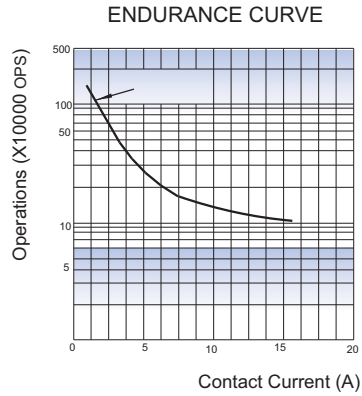
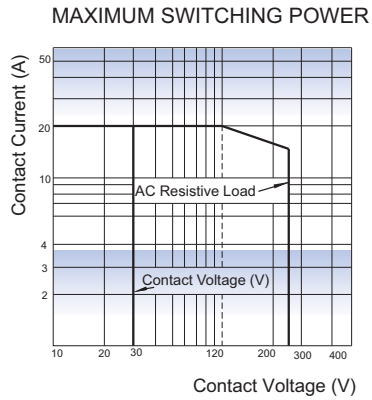
### PCB Layout (Bottom view)



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  $\pm 0.1\text{mm}$ .

## CHARACTERISTIC CURVES



### Disclaimer

The specification is for reference only. See to "Terminology and Guidelines" for more information. Specifications 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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