

# HF46FA

# SUBMINIATURE INTERMEDIATE POWER RELAY



File No.:E134517



File No.:R50582170



File No.:CQC17002177913



## Features

- 10A switching capability
- Surge Voltage (Between coil & contacts):10kV
- Satisfies reinforced insulation
- Extended temp. Range up to 105°C
- Width: 7mm,Suitable for PCB intensive installation
- Standard type: TV-5 products are available (AB9):TV-8 products are available
- UL insulation system: Class F **RoHS compliant**

## CONTACT DATA

Contact arrangement	1A
Contact resistance	Max.100mΩ(1A 6VDC)
Contact material	AgSnO <sub>2</sub> , AgNi
Contact rating (resistance)	10A 250VAC
Max.switching voltage	277VAC
Max.switching current	10A
Max.switching power	2770VA
Mechanical endurance	5×10 <sup>6</sup> ops
Electrical endurance	1×10 <sup>5</sup> ops (10A 250VAC,Resistive load,85°C, 1s on 9s off)
	5×10 <sup>4</sup> ops (10A 250VAC,Resistive load,105°C, 1s on 9s off)

**Notes:**1) The data shown above are initial values.  
2) Sealed type electrical endurance test with open hole.

## CHARACTERISTICS

Insulation resistance	1000MΩ(500VDC)
Dielectric strength	Between open contacts 1000VAC 1min
	Between coil & contacts 4000VAC 1min
Surge Voltage	10kV(1.2 x 50μs)
Operate time (at nomi. volt.)	10ms max.
Release time (at nomi. volt.)	10ms 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 105°C
Termination	PCB
Unit weight	Approx. 4g
Construction	Plastic sealed,flux proofed

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

## COIL

Coil power	Approx. 360mW
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## COIL DATA

23°C

Nominal Voltage VDC	Pick-up Voltage VDC max. <sup>1)</sup>	Drop-out Voltage VDC min. <sup>1)</sup>	Max. Allowable Voltage VDC <sup>2)</sup>	Coil Resistance Ω
3	2.25	0.18	3.9	25×(1±10%)
5	3.75	0.25	6.5	69×(1±10%)
6	4.50	0.30	7.8	100×(1±10%)
9	6.75	0.45	11.7	225×(1±10%)
12	9.00	0.60	15.6	400×(1±10%)
18	13.5	0.90	23.4	900×(1±10%)
24	18.0	1.20	31.2	1600×(1±10%)

**Notes:**1) The data shown above are initial values.  
2) Maximum voltage refers to the maximum voltage which relay coil could endure in a short period of time.

## SAFETY APPROVAL RATINGS

UL/CUL	AgNi	10A 250VAC, 85°C 10A 250VAC, 105°C
	AgSnO <sub>2</sub>	10A 250VAC, 105°C 1/3HP, 240VAC, 85°C
UL	AgSnO <sub>2</sub>	Standard type: TV-5 120VAC, 40°C (AB9) type:TV-8 120VAC, 40°C
TÜV	AgNi	10A 250VAC, 85°C 10A 250VAC, 105°C
	AgSnO <sub>2</sub>	10A 250VAC, 105°C

**Notes:**1) Only some typical rating are listed above.If more details are required,please contact us.



HONGFA RELAY

ISO9001,IATF16949,ISO14001,ISO45001,IECQ QC 080000 CERTIFIED

2026 Rev. 1.00

## ORDERING INFORMATION

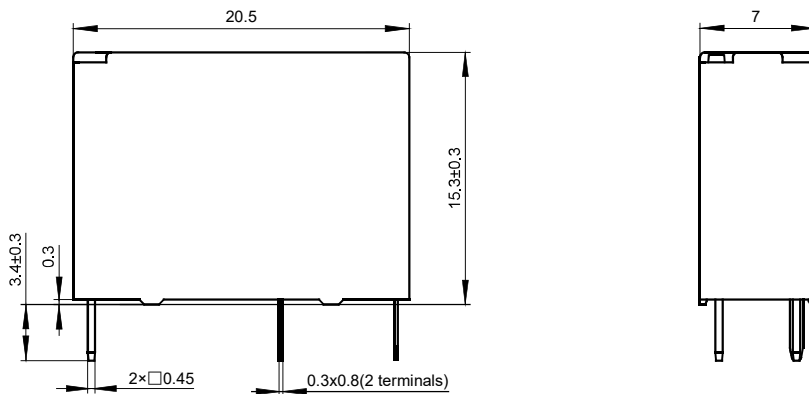
Type	HF46FA	12	-H	S	3	(XXX)
Coil voltage	3,5,6,9,12,18,24VDC					
Contact arrangement	H:1 Form A					
Construction	S: Plastic sealed Nil: Flux proofed					
Contact material	3: AgNi		T: AgSnO <sub>2</sub>			
Special code	XXX: Customer special requiremen			Nil: Standard		

- Notes:** 1) The customer special requirement express as special code after evaluating by Hongfa.e.g.(335) stands for product in accordance to IEC 60335-1(GWT),(AB9) Indicates that the product meets the TV-8 load.  
 2) Contact is recommended for suitable condition and specifications if water cleaning or surface process is involved in assembling relays on PCB.  
 3) We suggest to choose plastic sealed types and validate it in real application for an unclean environment (with contaminations like H<sub>2</sub>S,SO<sub>2</sub>,NO<sub>2</sub>, dust,etc.).

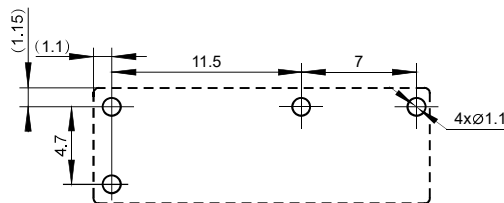
## OUTLINE DIMENSIONS, WIRING DIAGRAM AND PC BOARD LAYOUT

Unit: mm

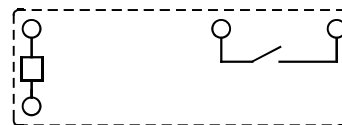
### Outline Dimensions



### PCB Layout(Bottom view)



### Wiring Diagram(Bottom view)



- Notes:** 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.

### 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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