

# HF186F-24

# MINIATURE HIGH POWER REALY



File No.: E133481



File No.: R 50684365



### Features

- 24 A 480 VAC switching capability
- contact gap:  $\geq 6.3\text{mm}$
- 5KV dielectric strength (between coil and contacts)
- UL insulation system: Class F
- Outline Dimensions: (30.0×20.0×31.5)mm

RoHS compliant

### CONTACT DATA

Contact arrangement	1A
Contact resistance	10mΩ max. (20A 6VDC)
Contact material	AgSnO <sub>2</sub>
Contact rating (Res. load)	24A, 277VAC
Max.swtiching voltage	480 VAC
Max.switching current	24 A
Max.switching power	11520 VAC
Mechanical endurance	1×10 <sup>5</sup> OPS
Electrical endurance	1×10 <sup>4</sup> OPS (90°C, 1s on 9s off, 24A,277VA, Resistive load)

### COIL

Coil power	Approx.3W
Holding voltage <sup>1)</sup>	40% to 70%U <sub>N</sub> (at 23°C) 40% to 60%U <sub>N</sub> (at 90°C)

**Notes:**1)The coil holding voltage is the voltage applied to coil 100ms after the rated voltage.  
2)To avoid overheating and burning,the coil can not be consistently applied to with voltage larger than maximum holding voltage.

### 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
5	3.75	0.25	6	8.3×(1±10%)
6	4.5	0.3	7.2	12×(1±10%)
9	6.75	0.45	10.8	27×(1±10%)
12	9	0.6	14.4	48×(1±10%)
18	13.5	0.9	21.6	108×(1±10%)
24	18	1.2	28.8	192×(1±10%)
48	36	2.4	57.6	768×(1±10%)

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

### CHARACTERISTICS

Insulation resistance	1000MΩ (at 500VDC)	
Dielectric strength	Between coil & contacts	5000VAC 1min
	Between open contacts	2500VAC 1min
Surge voltage (Between coil & contacts)	10kV(1.2/50μs)	
Operate time(at nomi. volt.)	30ms 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 1.0 mm DA	
Humidity	5% to 85%RH	
Ambient temperature	-40°C to 90°C <sup>2)</sup>	
Termination	PCB, SMD	
Unit weight	Approx. 40 g	
Construction	Flux proofed	

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

### SAFETY APPROVAL RATINGS

UL/CUL	24A,277VAC,Resistive,90°C
TÜV	24A,277VAC,Resistive,90°C

**Notes:** 1) Only typical loads are listed above. Other load specifications can be available upon request.



HONGFA RELAY

ISO9001, IATF16949, ISO14001, OHSAS18001, IECQ QC 080000, ISO/IEC 27001 CERTIFIED

2026 Rev. 1.00

## ORDERING INFORMATION

Type	HF186F-24 /12 H C T F (XXX)
Coil voltage	5,6,9,12,18,24,48VDC
Contact arrangement	H: 1 Form A
Termination	Nil: THT C: SMD
Contact material	T: AgSnO <sub>2</sub>
Insulation standard	F: Class F
Special code <sup>3)</sup>	XXX: Customer special requirement Nil: Standard

- Notes:** 1) Flux-proofed relays can not be used in the environment with pollutants like H<sub>2</sub>S, SO<sub>2</sub>, NO<sub>2</sub>, dust, etc.  
 2) Water cleaning or surface process is not suggested after the flux-proofed relays are assembled on PCB.  
 3) The customer special requirement express as special code after evaluating by Hongfa.e.g.

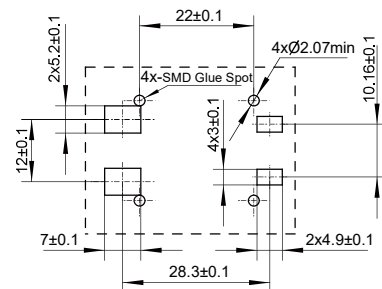
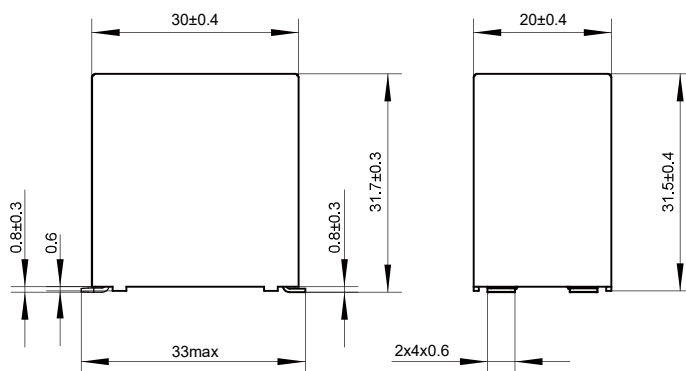
## OUTLINE DIMENSIONS, WIRING DIAGRAM AND PC BOARD LAYOUT

Unit: mm

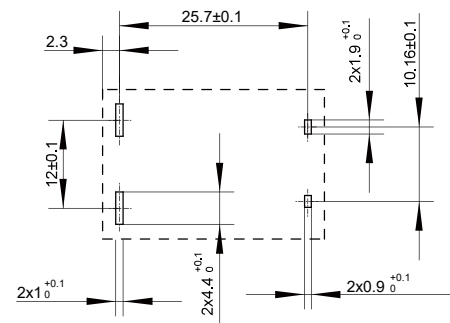
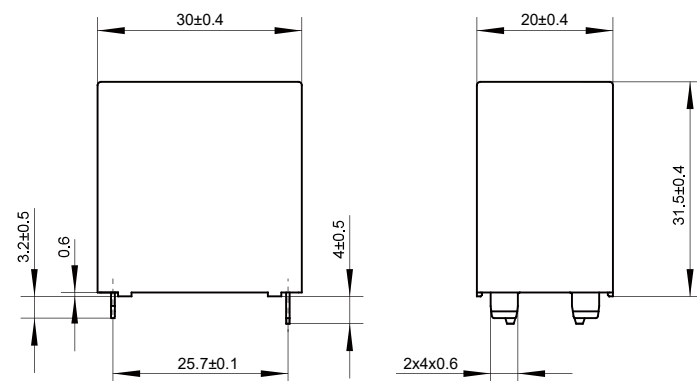
### Outline Dimensions

### PCB Layout (Bottom view)

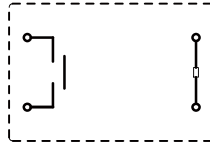
#### SMD



#### THT



Wiring Diagram  
(Bottom view)



- Notes:**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  $\pm 0.1\text{mm}$ .

### 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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