

# HF39F

# MINIATURE HIGH POWER RELAY



File No.: E133481



File No.: 40054212



File No.: CQC21002290222



## Features

- 10A switching capability
- creepage distance and air distance: >8mm
- High surge current resistance: 205A
- Small size: 20mm×8.5mm×12.5mm
- Dielectric strength (between coil and contacts) ≥ 5000VAC
- TV-8 compliant products are available

RoHS compliant

## CONTACT DATA

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

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

## CHARACTERISTICS

Insulation resistance		1000MΩ(500VDC)
Dielectric strength	Between coil & contacts	5000VAC 1min
	Between open contacts	1000VAC 1min
Operate time (at nomi. volt.)		8ms max.
Release time (at nomi. volt.)		4ms max.
Shock resistance	Functional	98m/s <sup>2</sup>
	Destructive	980m/s <sup>2</sup>
Vibration resistance		10Hz to 55Hz 1.65mm DA
Humidity		5% to 85%RH
Ambient temperature		-40°C to 85°C
Termination		PCB
Unit weight		Approx. 4.9g
Construction		Flux proofed

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

## COIL

Coil power	Approx. 300mW
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## COIL DATA

23°C

Nominal Voltage VDC	Pick-up Voltage VDC max.	Drop-out Voltage VDC min	Max. Allowable Voltage VDC	Coil Resistance Ω
3	2.25	0.15	3.9	30×(1±10%)
5	3.75	0.25	6.5	83×(1±10%)
6	4.5	0.30	7.8	120×(1±10%)
9	6.75	0.45	11.7	270×(1±10%)
12	9.00	0.60	15.6	480×(1±10%)
18	13.5	0.90	23.4	1080×(1±10%)
24	18.0	1.20	31.2	1920×(1±10%)
48	36.0	2.40	62.4	7680×(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	10A 125VAC/250VAC/277VAC Resistive load 85°C
	10A 125VAC/250VAC/277VAC General load 85°C
	TV-5 120VAC 40°C
	TV-8 120VAC 40°C (590 Special)
	2A 277VAC electronic ballast 85°C
	3A 120VAC electronic ballast 85°C
VDE	1/2 HP motor 250VAC 85°C
	1/4 HP motor 120VAC 85°C
VDE	10A 250VAC Resistive load 85°C
CQC	10A 125VAC/250VAC/277VAC Resistive load 85°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, ISO/IEC 27001 CERTIFIED

2023 Rev. 1.00

## ORDERING INFORMATION

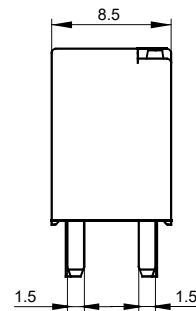
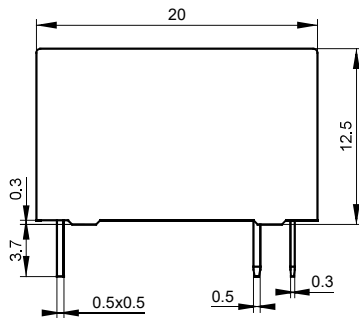
Type	HF39F/	12	-H	T	F	(XXX)
Coil voltage	3, 5, 6, 9, 12, 18, 24, 48VDC					
Contact arrangement	1H:1 Form A					
Contact material	T: AgSnO <sub>2</sub>					
Insulation class	F: Class F					
Special code	XXX: Customer special requiremen; Nil: Standard					

Notes: 1) The customer special requirement express as special code after evaluating by Hongfa.  
e.g.(590) stands for product in accordance to the tv-8 load.

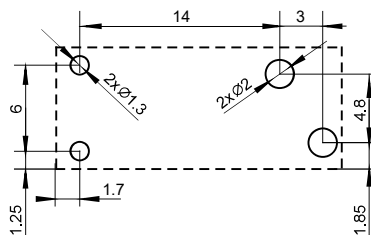
## OUTLINE DIMENSIONS, WIRING DIAGRAM AND PC BOARD LAYOUT

Unit: mm

### Outline Dimensions



### PCB Layout(Bottom view)



### Wiring Diagram(Bottom view)



- Notes: 1) The pin dimension of the product outline drawing is the size before tinning (it will become larger after tinning), and the mounting hole size is the recommended design size of the PCB board hole. The specific PCB board hole design size can be mapped and adjusted according to the actual product.
- 2) 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  $> 5\text{mm}$  and  $\leq 30\text{mm}$ , tolerance should be  $\pm 0.4\text{mm}$ ; outline dimension  $> 30\text{mm}$ , tolerance should be  $\pm 0.6\text{mm}$ .
- 3) 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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