

HF193F

MINIATURE HIGH POWER RELAY



File No.: E133481



File No.: R 50541915



Features

- High temperature: 105°C
- 30A 277VAC switching capability
- Low holding power consumption: only 0.16W
- 5kV dielectric strength (between coil and contacts)
- Meeting reinforce insulation
- UL insulation system: Class F
- Outline Dimensions: (20×12.7×15.7)mm

RoHS compliant

CONTACT DATA

Contact arrangement	1A
Contact resistance	6mΩ max.(20A 6VDC)
Contact material	AgSnO ₂
Contact rating(Res.load)	30A 277VAC
Max. Switching voltage	277VAC
Max. Switching current	30A
Max. Switching power	8310VA
Mechanical endurance	1×10 ⁶ OPS
Electrical endurance	1×10 ⁵ OPS (105°C,1s on 9s off, making 5A, loading 30A,Breaking 5A,277VAC, Resistive load) 1×10 ⁴ OPS (making 30A,Breaking 10A,277VAC, 105°C,Resistive load,1s on 9s off)

CHARACTERISTICS

Insulation resistance		1000 MΩ (500VDC)
Dielectric strength	Between open contacts	1000VAC 1min
	Between coil & contacts	5000VAC 1min
Surge voltage		6kV(1.2/50μs)
Operate time (at rated. volt.)		15ms max.
Release time (at rated. volt.)		8ms max.
Temperature rise		50K max. (Contact load 30A, 50% rated voltage holding, 105°C)
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 105°C
Termination		PCB
Unit weight		Approx. 10g
Construction		Flux proofed,Plastic sealed

Notes: The data shown above are initial values.

Coil power	Approx.1W
Holding voltage	35% to 70%UN(at 23°C) 40% to 50%UN(at 85°C/105°C)

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

COIL DATA

23°C

Nominal Voltage VDC	Pick-up Voltage VDC max.	Drop-out Voltage VDC min.	Max. Voltage VDC ²⁾	Coil Resistance Ω
5	3.5	0.25	5.5	25×(1±10%)
6	4.2	0.3	6.6	36×(1±10%)
9	6.3	0.45	9.9	81×(1±10%)
12	8.4	0.6	13.2	144×(1±10%)
24	16.8	1.2	26.4	576×(1±10%)

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

SAFETY APPROVAL RATINGS

UL/CUL	Flux proofed type: 30A 277 VAC 105°C Making 5A,Loading 30A,Breaking 5A 277VAC 105°C Making 30A,Breaking 5A 277VAC 85°C Plastic sealed type: Making 30A,Breaking 5A 277VAC 85°C
	Flux proofed type: Making 30A,Breaking 10A 277VAC 105°C (Follow IEC 62368-1 Clause G2.1 and G2.2) Making 5A,Loading 30A,Breaking 5A 277VAC 105°C Making 30A,Breaking 5A 277VAC 85°C Plastic sealed type: Making 30A,Breaking 5A 277VAC 85°C

Notes: 1)All values unspecified are at room temperature;
2)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

2024 Rev. 1.00

ORDERING INFORMATION

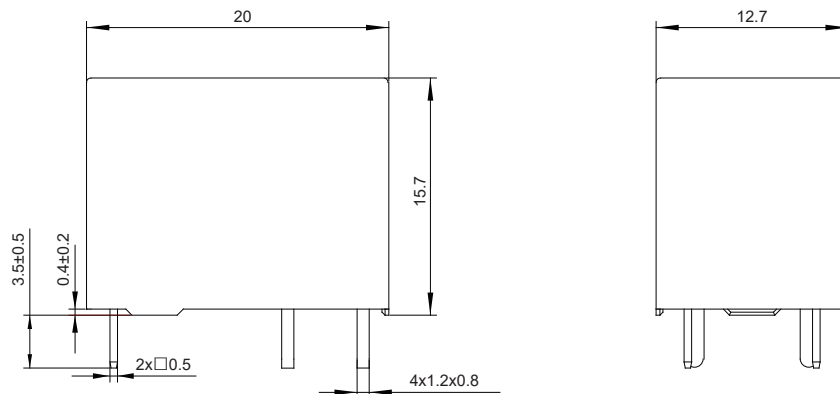
Type	HF193F/	12	-H	S	T	F	(XXX)
Coil voltage	6,9,12,24VDC						
Contact arrangement	H: 1 Form A						
Construction	S: Plastic sealed Nil: Flux proofed						
Contact material	T: AgSnO ₂						
Insulation standard	F: Class F						
Special code	XXX: Customer special requirement Nil: Standard type						

Notes: 1) We recommend flux proofed types for a clean environment(free from contaminations like H₂S, SO₂, NO₂, dust,etc.).
We suggest to choose plastic sealed types and validate it in real application for an unclean environment(with contaminations like H₂S, SO₂, NO₂, dust,etc.).
2) Contact is recommended for suitable condition and specifications if water cleaning or surface process is involved in assembling relays on PCB.
3) The customer special requirement express as special code after evaluating by Hongfa.

OUTLINE DIMENSIONS, WIRING DIAGRAM AND PC BOARD LAYOUT

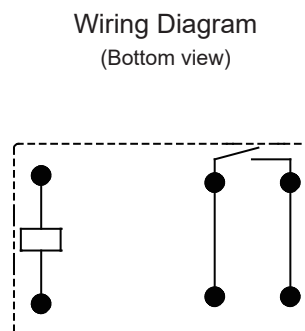
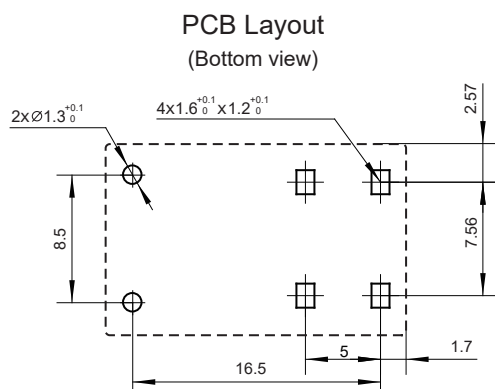
Unit: mm

Outline Dimensions



OUTLINE DIMENSIONS, WIRING DIAGRAM AND PC BOARD LAYOUT

Unit: mm



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 $\pm 0.1\text{mm}$.

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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