HF193F/2H MINIATURE HIGH POWER RELAY

File No.: Applying

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Features

- 16A 277VAC load capability
- 5kV dielectric strength (between coil and contacts)
- Small size: (20×12.7×15.7)mm
- Low coil holding voltage contributes to saving energy of equipment
- UL insulation system: Class F
- Meets IEC62368-1 reinforce insulation

RoHS compliant

CONTACT DATA

Contact arrangement	2A
Contact voltage drop	60mV max. (13.5VDC 10A)
Contact material	$AgSnO_2$
Contact rating(Res. load)	16A 277VAC
Max.swtiching voltage	277VAC
Max.Switching current	16A
Max. Switching power	4432VA
Mechanical endurance	1×10^6 ops
Electrical endurance	1×10^4 ops (2NO:16A 277V, Resistive load, 85°C, 1s on 9s off,Comply with the requirements of IEC62368-1) 3×10^4 ops (2NO: 16A 277V, Resistive load, Room temp.,1s on 9s off)

CHARACTERISTICS

Insulation resistance		100MΩ(500VDC)
Dielectric strength	Between open contacts	5000VAC 1min
	Between coil & contacts	1000VAC 1min
	Between contacts sets	2500VAC 1min
Surge Voltage (Between coil & contacts)		6kV(1.2/50μs)
Operate time (at nomi. volt.)		15ms max.
Release time (at nomi. volt.)		8ms max.
Shock resistance*	Functional	$98m/s^2$
	Destructive	$980m/s^2$
Vibration resistance*	NO	10Hz to 55Hz 1.5mm DA
Humidity		5% to 85%RH
Ambient temperature		-40°C to 85°C (Coil applied holding voltage)
Termination		PCB
Unit weight		Approx. 10g
Construction		Plastic sealed, Flux proofed

Notes: * Index is not that of relay length direction.

COIL

Coil voltage	Approx. 1W
Holding voltage	35% to 70%U_N (at 23°C) 40% to 50%U_N (at 85°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 consistently applied to with voltage larger than maximum holding voltage.

COIL DATA at 23°C

Nominal Voltage VDC	Set Voltage VDC max.	Drop-out Voltage VDC min.	Max. Voltage VDC	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)Maximum voltage is refers to the relay coil in a short period of time can bear the biggest voltage values.

SAFETY APPROVAL RATINGS

UL/CUL	16A 277VAC 85°C
TUV	16A 277VAC Room temp.
CQC	

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

ORDERING INFORMATION

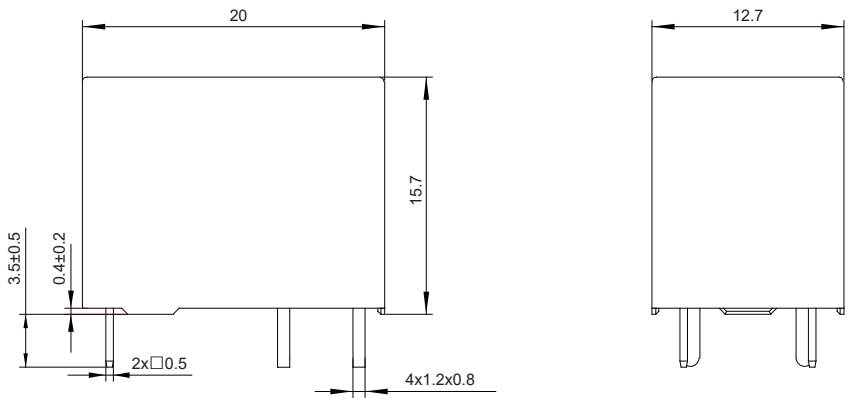
	HF193F/	12	-2H	S	T	F	(XXX)
Type							
Coil voltage	5,6,9,12,24VDC						
Contact arrangement	**2H:** 2 Form A						
Construction[1)2)]	**S:** Plastic sealed	**Nil:** Flux proofed					
Contact material	**T:** $AgSnO_2$						
Insulation standard	**F:** Class F						
Special code[3)]	**XXX:** Customer special requirement	**Nil:** Standard type					

Notes: 1) We recommend flux proofed types for a clean environment(free from contaminations like H_2S, SO_2, NO_2, dust,etc.).
We suggest to choose plastic sealed types and validate it in real application for an unclean environment(with contaminations like H_2S, SO_2,NO_2, 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

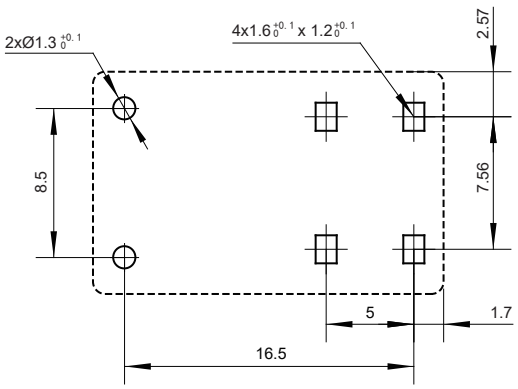
Unit: mm

Outline Dimensions



PCB Layout

(Bottom view)

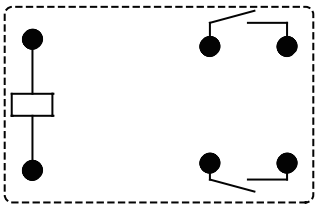


OUTLINE DIMENSIONS, WIRING DIAGRAM AND PC BOARD LAYOUT

Unit: mm

Wiring Diagram

(Bottom view)



Remark: 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 ≤1mm, tolerance should be ±0.2mm; outline dimension >1mm and ≤5mm, tolerance should be ±0.3mm; outline dimension >5mm, tolerance should be ±0.4mm.

3) The tolerance without indicating for PCB layout is always ±0.1mm.