HF198F MINIATURE HIGH POWER RELAY

File No.: E133481

File No.: R 50576276

File No.: CQC23002375878



Features

- 2 Main contacts +1 Auxiliary contact
- Detection of main contact welding makes it possible to construct a safety circuit(according to IEC 61810-3)
- Meet the requirements for auxiliary contact linked with power contact (mirror contact)(according to IEC 60947-4-1)
- Contact gap: 3.6 mm (Main contact),each contact
- Contact category :CC2
- Low coil holding voltage contributes to save energy
- Fully compliant to the 10kA short circuit current test and 500A switching of IEC 62955

RoHS compliant

CONTACT DATA

Contact arrangement		2H/2HB
Contact resistance (initial)	Main contact	Typ.: 2mΩ(6VDC 20A) Max.: 10mΩ(6VDC 20A)
	Auxiliary contact	100 mΩ max(6VDC 1A)
Contact material		Main contact: $AgSnO_2$ Auxiliary contact: AgNi
Contact rating (resistance)	Main contact	50A 440VAC
	Auxiliary contact	1A 277VAC, 1A 30VDC
Max. Switching voltage	Main contact	440VAC
	Auxiliary contact	277VAC, 30VDC
Max.Switching current		Main contac: 50A Auxiliary contact: 1A
Max. Switching power		Main contact: 22000VA Auxiliary contact: 277VA/30W
Min. switching load (Auxiliary contact)[2)]		NC 100mA 12VDC NC(Gold plated) 10mA 12VDC
Mechanical endurance		2×10^5ops
Electrical endurance		NO: Making 10 A Carrying 50A Breaking 10 A,440VAC, Resistive load, 85℃, 5×10^4ops NC: 1A 277VAC/30VDC, Resistive load, 85℃, 1s on 9s off,1×10^5ops

Notes: 1) The data shown above are initial values.
2) Min. contact load is reference value. Please perform the confirmation test with the actual load before usage since reference value may change according to switching requencies,environmental conditions and expected life cycles.

COIL DATA at 23℃

Nominal Voltage VDC	Pick-up Voltage VDC max.	Drop-out Voltage VDC min.	Max. Allowable Voltage VDC[1)]	Coil Resistance Ω
9	6.75	0.45	9.9	22.5×(1±10%)
12	9	0.6	13.2	40×(1±10%)
24	18	1.2	26.4	160×(1±10%)
48	36	2.4	52.8	640×(1±10%)

Notes: 1) Maximun voltage refers to the maximum voltage which relay coil could endure in a short period of time.

CHARACTERISTICS

Insulation resistance		1000MΩ(500VDC)
Dielectric strength	Between open Main contacts	2000VAC 1min
	Between Main contact & Auxiliary contact	5000VAC 1min
	Between Main contact sets	3500VAC 1min
	Between coil & Auxiliary contacts	2000VAC 1min
	Between coil & Main contacts	5000VAC 1min
	Between open Auxiliary contacts	1000VAC 1min
Operate time (at nomi. volt.)		40ms max.
Release time (at nomi. volt.)		20ms max.
Coil temperature rise		70K max.(Contact load current 50A，Applied voltage of coil 100% rated voltage for 100 ms holding voltage of coil 60% rated voltage, at 85℃)
Shock resistance	Functional	98m/s²
	Destructive	980m/s²
Vibration resistance		10Hz to 55Hz 1.0mm DA
Humidity		5% to 85%RH
Ambient temperature		-40℃ to 85℃
Termination		PCB
Unit weight		Approx. 130g
Construction		Flux proofed

COIL

Coil power	Approx. 3.6W
Holding voltage	35% to 80%U_N(at 23℃) 40% to 60%U_N(at 85℃)

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.

SAFETY APPROVAL RATINGS(Pending)

UL/CUL	NO:32A 440VAC NO: Making 10A Carrying 50A Breaking 10A,440VAC NC: 1A 125VAC/277VAC/30VDC Resistive 85℃
TÜV	NO:32A 440VAC NO: Making 10A Carrying 50A Breaking 10A,440VAC NC: 1A 125VAC/277VAC/30VDC Resistive 85℃
CQC	NO:32A 440VAC NO: Making 10A Carrying 50A Breaking 10A,440VAC NC: 1A 125VAC/277VAC/30VDC Resistive 85℃

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.

ORDERING INFORMATION

	HF198F/	12	-2H	B	T	F	(955)
Type							
Coil voltage	9,12,24,48VDC						
Main contact arrangement	**2H:** 2 Form A						
Auxiliary contact arrangement	**B:** 1 Form B **Nil:** Without auxiliary contact						
Main contact material	**T:** $AgSnO_2$						
Insulation standard	**F:** Class F						
Special code	**(955)** Fully compliant to the short circuit current test of IEC 62955) **(991)** Auxiliary contact gold plated						

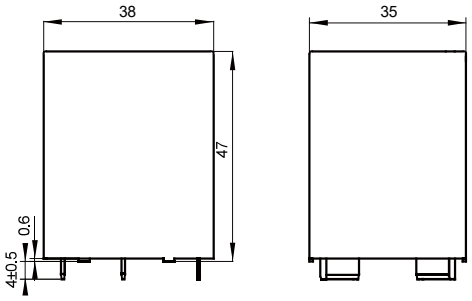
Notes: 1) Please avoid using the relay in an environment containing organic silicon,otherwise the entry of organic silicon into the relay may acceleration contact failure.If there are harmful substances and elements such as water vapor,H_2S,SO_2,NO_2,Cl,P,dust,etc.， as well as unknown harmful substances and elements,In the use of environmental gases,it may lead to increased contact resistance and poor contact during the use of relays.In the above situations,please control the materials that produce harmful substances and elements or use plastic sealed type， and arrange relevant tests to confirm that it meet the requirements for actual use.
2) Washing or surface cleaning 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.
4) Short-circuit:HF198F(955) can fulfill the short-circuit current test according to IEC 62955:2018.
Test sequence E: 9.11.2.3 a) 440 VAC, Ip≥2.6 kA， I^2t≥6.5 kA^2s(In≤32A, Inc=10kA) + 9.11.2.2 440 VAC, Im=500A.
Test Sequence F: 9.11.2.3 b) 440VAC, Im=500A + 9.11.2.3 c) 440VAC, Ip≥2.6kA,I^2t≥6.5 kA^2s(In≤32A IΔc=10kA).

OUTLINE DIMENSIONS, WIRING DIAGRAM AND PC BOARD LAYOUT

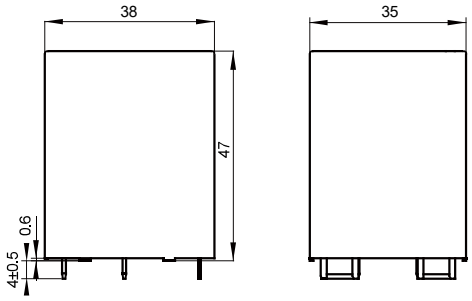
Unit: mm

Outline Dimensions

2H



2HB



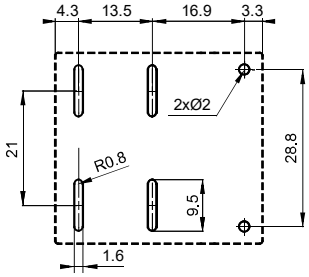
OUTLINE DIMENSIONS, WIRING DIAGRAM AND PC BOARD LAYOUT

Unit: mm

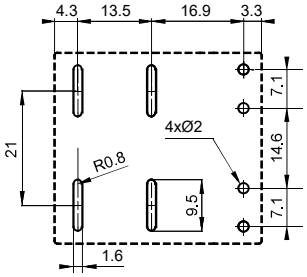
PCB Layout

(Bottom view)

2H



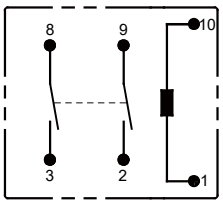
2HB



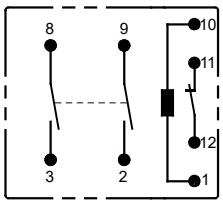
Wiring Diagram

(Bottom view)

2H



2HB



Remark: 1) 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 and ≤30mm, tolerance should be ±0.4mm;
outline dimension＞30 mm, tolerance should be ±0.6mm.
2) The tolerance without indicating for PCB layout is always ±0.1mm.

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.

© Xiamen Hongfa Electroacoustic Co., Ltd. All rights of Hongfa are reserved.