HF3F-L SUBMINIATURE HIGH POWER LATCHING RELAY

File No.: E134517

File No.:40040757

File No.:CQC15002121475



Features

- Subminiature high power latching relay
- Low coil power
  1 coil latching: approx. 0.4W
  2 coils latching: approx. 0.8W
- 15A switching capability
- 1 Form A and 1 Form C configurations
- Subminiature, standard PCB layout
- Plastic sealed and flux proofed types available
- Environmental friendly product (RoHS compliant)
- Outline Dimensions: (19.0 x 15.2 x 15.5) mm

CONTACT DATA

Contact arrangement	1A	1C
Contact resistance	100mΩ max.(at 1A 6VDC)	
Contact material	$AgSnO_2$	
Contact rating (Res. load)	10A 277VAC/30VDC	
Max. switching voltage	277VAC / 30VDC	
Max. switching current	15A	10A
Max. switching power	2770VA / 300W	
Mechanical endurance	1 x 10^7 OPS	
Electrical endurance	1HT: 6 x 10^3 OPS (15A 120VAC, Incandescent lamp, at 60℃, 1s on 59s off) 1 x 10^4 OPS (10A 277VAC, Resistive load, at 60℃, 1s on 9s off) 2 x 10^4 OPS (12A 277VAC, General use, at 70℃, 1s on 9s off)	

CHARACTERISTICS

Insulation resistance		100MΩ (at 500VDC)
Dielectric strength	Between coil & contacts	2000VAC 1min
	Between open contacts	750VAC 1min
Set time (at nomi. volt.)		8ms max.
Reset time (at nomi. volt.)		5ms max.
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 85˚C
Termination		PCB
Unit weight		Approx. 9g
Construction		Plastic sealed, Flux proofed

Notes: 1) For sealed type, the vent-hole cover should be excised.
2) The data shown above are initial values.

COIL

Coil power	1 coil latching: Approx. 0.4W 2 coils latching: Approx. 0.8W

COIL DATA at 23˚C

1 coil latching

Nominal Voltage VDC	Set Voltage VDC max.	Reset Voltage VDC max.	Pulse Width (ms) min.	Max. Voltage VDC	Coil Resistance Ω
5	4.0	4.0	100	10	62.5x (1±10%)
6	4.8	4.8	100	12	90x (1±10%)
9	7.2	7.2	100	18	202.5x (1±10%)
12	9.6	9.6	100	24	360x (1±10%)
24	19.2	19.2	100	48	1440x (1±10%)
48	38.4	38.4	100	96	5760x (1±10%)

2 coils latching

Nominal Voltage VDC	Set Voltage VDC max.	Reset Voltage VDC max.	Pulse Width (ms) min.	Max. Voltage VDC	Coil Resistance Ω
5	4.0	4.0	100	10	31.5+31.5x (1±10%)
6	4.8	4.8	100	12	45+45x (1±10%)
9	7.2	7.2	100	18	101.5+101.5x (1±10%)
12	9.6	9.6	100	24	180+180x (1±10%)
24	19.2	19.2	100	48	720+720x (1±10%)
48	38.4	38.4	100	96	2880+2880x (1±10%)

SAFETY APPROVAL RATINGS

UL/CUL	NO:10A 277/250/125VAC, Resistive at 60˚C NO:12A 277/250/125VAC, General use at 70˚C NO: Standard ballast 5.5A 277/220/120VAC at 60˚C NO: Electronic ballast 5A, 120VAC at 60˚C NO: Electronic ballast 5A, 277VAC at 70˚C* NO: Tungsten (incandescent) 15A 120VAC at 60˚C NO: Tungsten (incandescent) 5A 277VAC at 60˚C NO: 1/6HP 240/120VAC at 85˚C NO: TV-10 125VAC at 70˚C
VDE	NO: 10A 250VAC, Resistive, at 85˚C NO/NC: 5A 250VAC, Resistive, at 85˚C

Notes: 1) All values unspecified are at room temperature.
2) Only typical loads are listed above. Other load specifications can be available upon request.
3) * These ratings are tested with zero crossing device.

ORDERING INFORMATION

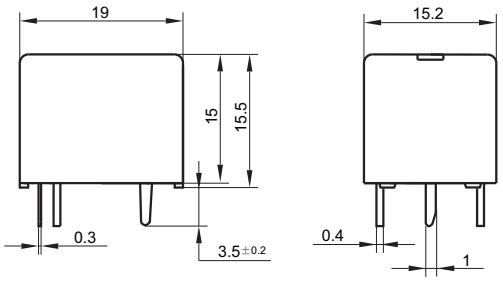
	HF3F-L /	12	-1H	L1	T	-R	(XXX)
Type							
Coil voltage	5, 6, 9, 12, 24, 48VDC						
Contact arrangement	**1H**:1 Form A **1Z**:1 Form C						
Sort	**L1**: 1 coil latching **L2**: 2 coils latching						
Contact material	**T**: $AgSnO_2$						
Polarity	**R**: Reverse polarity **Nil**: Standard polarity						
Special code[3)]	**XXX:** Customer special requirement **Nil:** Standard						

Notes: 1) Water cleaning or surface process is not suggested after the flux-proofed relays are assembled on PCB.
2) Flux-proofed relays can not be used in the environment with pollutants like H_2S, SO_2, NO_2, dust, etc.
3) The customer special requirement express as special code after evaluating by Hongfa.

OUTLINE DIMENSIONS, WIRING DIAGRAM AND PC BOARD LAYOUT

Unit: mm

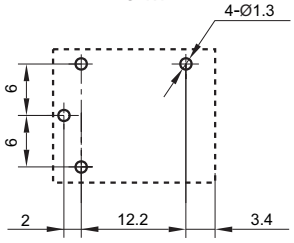
Outline Dimensions



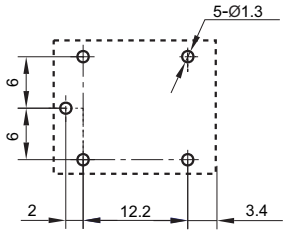
PCB Layout (Bottom view)

1 coil latching

1 Form A



1 Form C

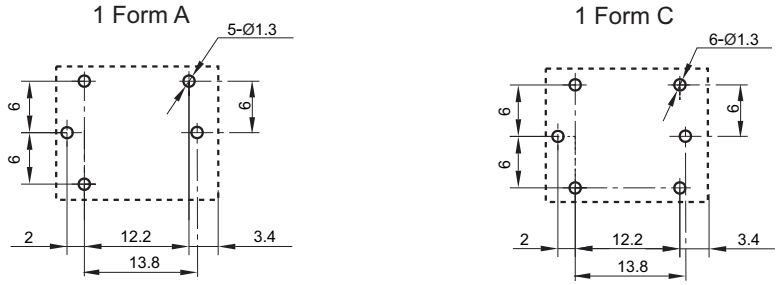


OUTLINE DIMENSIONS, WIRING DIAGRAM AND PC BOARD LAYOUT

Unit: mm

PCB Layout (Bottom view)

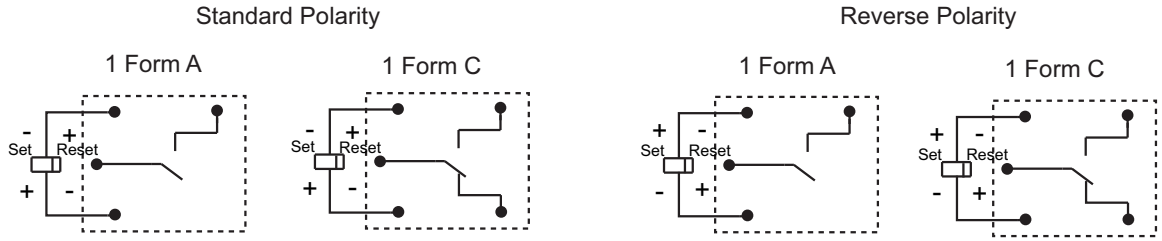
2 coils latching



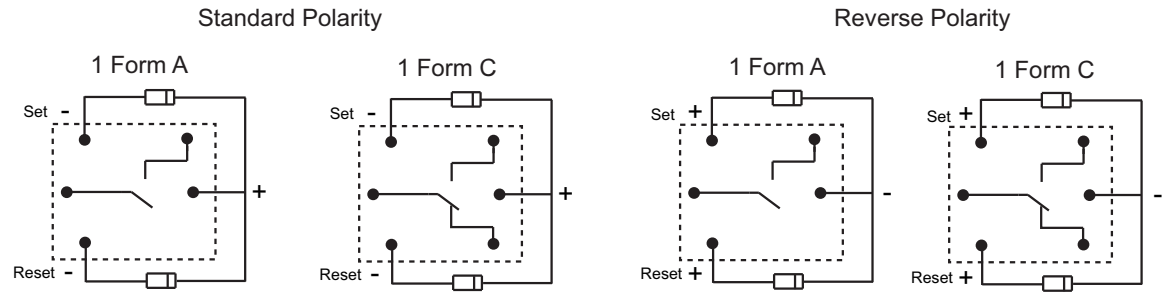
Remark: 1) In case of no tolerance shown in outline dimension: outline dimension ≤1mm, tolerance should be ±0.2mm; outline dimension >1mm and ≤5mm, tolerance should be ±0.3mm; outline dimension >5mm, tolerance should be ±0.4mm.
2) The tolerance without indicating for PCB layout is always ±0.1mm.

Wiring Diagram (Bottom view)

1 coil latching



2 coils latching



Notice

1. Relay is on the “reset” or "set" status when being released from stock, with the consideration of shock risen from transit and relay mounting, relay would be changed to “set” or "reset" status, therefore, when application (connecting the power supply), please reset the relay to “set” or “reset” status on request.
2. In order to maintain “set” or “reset” status, energized voltage to coil should reach the rated voltage, impulse width should be more than 100 ms. Do not energize voltage to “set” coil and “reset” coil simultaneously. And also long energized time (more than 1 min) should be avoided.
3. Keep the product away from strong magnetic field during transportation, storage and application, to avoid change of set/reset voltage.

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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