HF3F-L SUBMINIATURE HIGH POWER LATCHING RELAY

c UL us
File No.: E134517

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 10^7OPS	
Electrical endurance	See approval reports for more details	

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.	Coil Resistance x (1±10%)Ω
5	4.0	4.0	100	62.5
6	4.8	4.8	100	90
9	7.2	7.2	100	202.5
12	9.6	9.6	100	360
24	19.2	19.2	100	1440
48	38.4	38.4	100	5760

2 coils latching

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

SAFETY APPROVAL RATINGS(Pending)

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

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

ORDERING INFORMATION

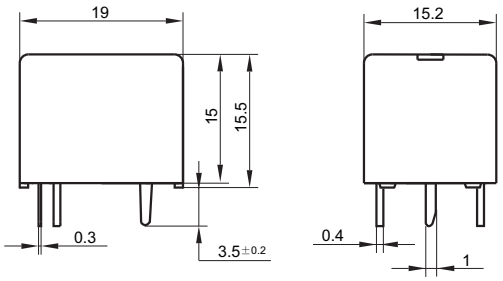
	HF3F-L /	12	-1H	S	L1	T	-R	(XXX)
Type								
Coil voltage	5, 6, 9, 12, 24, 48VDC							
Contact arrangement	**1H**:1 Form A **1Z**:1 Form C							
Construction [1]	**S**: Plastic sealed **Nil**: Flux proofed							
Sort	**L1**: 1 coil latching **L2**: 2 coils latching							
Contact material	**T**: $AgSnO_2$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

Notes: 1) Under the ambience with dangerous gas like H_2S, SO_2 or NO_2, plastic sealed type is recommended; Please test the relay in real applications.
If the ambience allows, flux proofed type is preferentially recommended.
If water cleaning is required after the relay is assembled on PCB, please contact us for suggestion about suitable parts.

OUTLINE DIMENSIONS, WIRING DIAGRAM AND PC BOARD LAYOUT

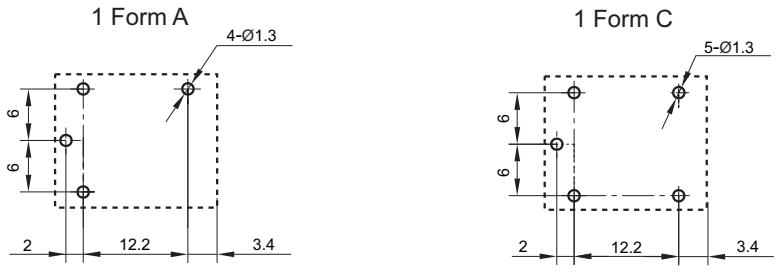
Unit: mm

Outline Dimensions



PCB Layout (Bottom view)

1 coil latching

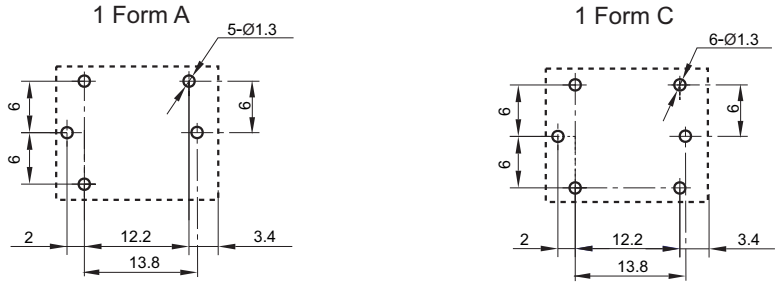


OUTLINE DIMENSIONS, WIRING DIAGRAM AND PC BOARD LAYOUT

Unit: mm

PCB Layout (Bottom view)

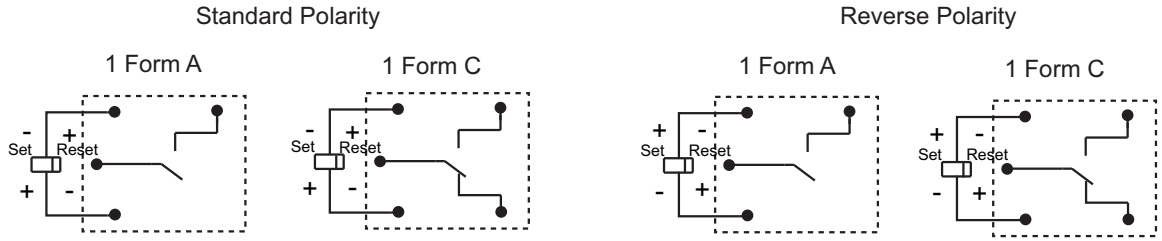
2 coils latching



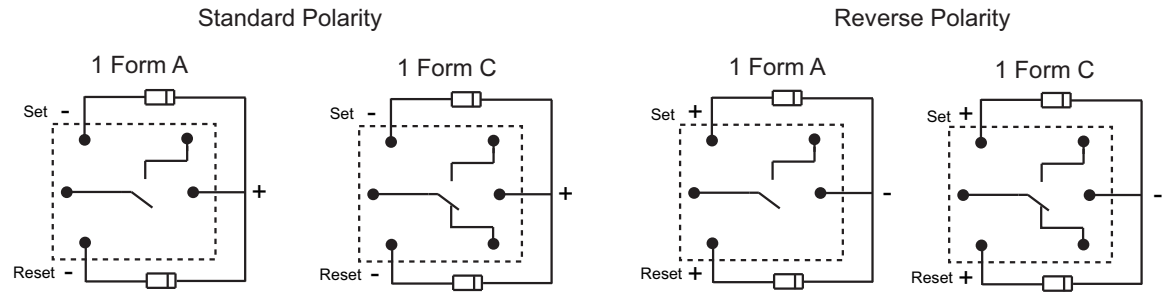
Remark: 1) In case of no tolerance shown in outline dimension: outline dimension ≤1mm, tolerance should be ±0.2mm; outline dimension >1mm and ≤5mm, tolerance should be ±0.3mm; outline dimension >5mm, tolerance should be ±0.4mm.
2) The tolerance without indicating for PCB layout is always ±0.1mm.

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

This datasheet is for the customers’ reference. All the specifications are 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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