HF12FF SUBMINIATURE HIGH POWER RELAY

c UL us
File No.:E134517

File No.:R50176080

CQC
File No.:CQC09002036155



Features

- 12A switching capability
- 1 Form A configuration
- Subminiature, standard PCB layout
- Plastic sealed and flux proofed types available
- Environmental friendly product (RoHS compliant)
- Outline Dimensions: (18.4 x 15.2 x 10.2) mm

CONTACT DATA

Contact arrangement	1A
Contact resistance	100mΩ max.(at 1A 24VDC)
Contact material	$AgSnO_2$
Contact rating (Res. load)	10A 277VAC/30VDC 12A 125VAC
Max. switching voltage	277VAC
Max. switching current	12A
Max. switching power	2770VA / 300W
Mechanical endurance	1 x 10^7OPS
Electrical endurance	1 x 10^5OPS (10A 250VAC, Resistive load, Room temp., 1s on 1s off)

CHARACTERISTICS

Insulation resistance		1000MΩ (at 500VDC)
Dielectric strength	Between coil & contacts	2500VAC 1min
	Between open contacts	1000VAC 1min
Operate time (at nomi. volt.)		8ms max.
Release 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. 6g
Construction		Plastic sealed, Flux proofed

Notes: 1) The data shown above are initial values.
2) Please find coil temperature curve in the characteristic curves below.
3) UL insulation system: Class B

COIL

Coil power	Approx. 450mW

COIL DATA at 23°C

Nominal Voltage VDC	Pick-up Voltage VDC max.	Drop-out Voltage VDC min.	Max. Voltage VDC *	Coil Resistance Ω
3	2.25	0.15	3.90	20 x (1±10%)
5	3.75	0.25	6.50	55 x (1±10%)
6	4.50	0.30	7.80	80 x (1±10%)
9	6.75	0.45	11.7	180 x (1±10%)
12	9.00	0.60	15.6	320 x (1±10%)
18	13.5	0.90	23.4	720 x (1±10%)
24	18.0	1.20	31.2	1280 x (1±10%)

Notes: *Maximum voltage refers to the maximum voltage which relay coil could endure in a short period of time.

SAFETY APPROVAL RATINGS

UL/CUL	12A 125VAC 10A 277VAC 13.5A 125VAC 10A 30VDC TV-5 1/4HP 125VAC / 250VAC
TÜV	12A 125VAC 10A 277VAC

Notes: 1) All values unspecified are at room temperature.
2) Only typical loads are listed above. Other load specifications can be available upon request.

ORDERING INFORMATION

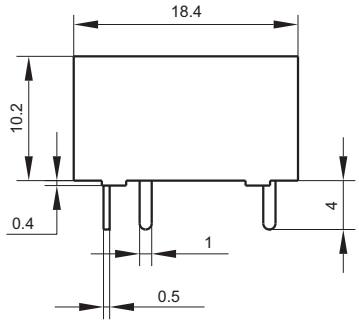
	HF12FF /	012	-H	S	(XXX)
Type					
Coil voltage	3, 5, 6, 9, 12, 18, 24VDC				
Contact arrangement	**H**: 1 Form A				
Construction[1) 2)]	**S**: Plastic sealed	**Nil**: Flux proofed			
Special code[3)]	**XXX:** Customer special requirement		**Nil:** Standard		

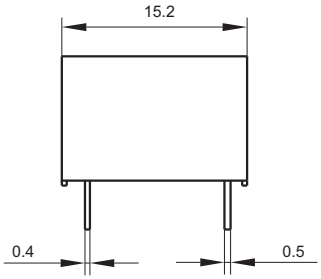
Notes: 1) Under the ambience with dangerous gas like H_2S, SO_2 or NO_2, plastic sealed type is recommended; Please test the relay in real applications. If the ambience allows, flux proofed type is preferentially recommended.
2) Contact is recommended for suitable condition and specifications if water cleaning or surface process is involved in assembling relays on PCB.
3) The customer special requirement express as special code after evaluating by Hongfa.

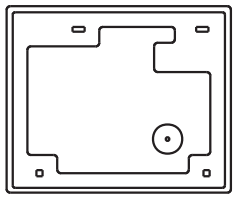
OUTLINE DIMENSIONS, WIRING DIAGRAM AND PC BOARD LAYOUT

Unit: mm

Outline Dimensions



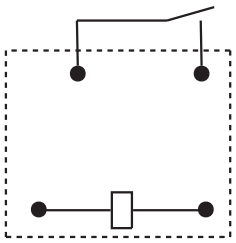




(Bottom view)

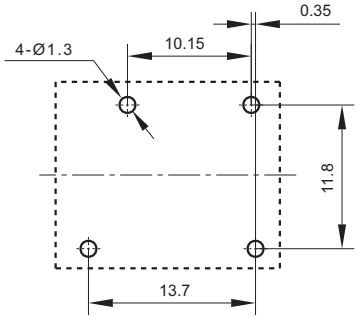
Wiring Diagram

(Bottom view)



PCB Layout

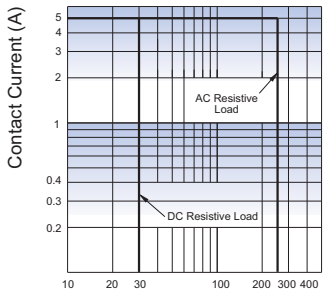
(Bottom view)



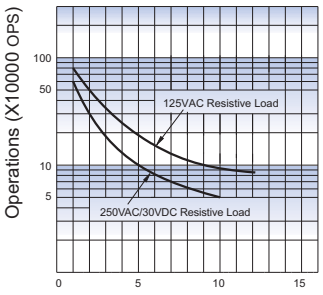
Remark: 1) In case of no tolerance shown in outline dimension: outline dimension ≤1mm, tolerance should be ±0.2mm; outline dimension >1mm and ≤5mm, tolerance should be ±0.3mm; outline dimension >5mm, tolerance should be ±0.4mm.
2) The tolerance without indicating for PCB layout is always ±0.1mm.

CHARACTERISTIC CURVES

MAXIMUM SWITCHING POWER

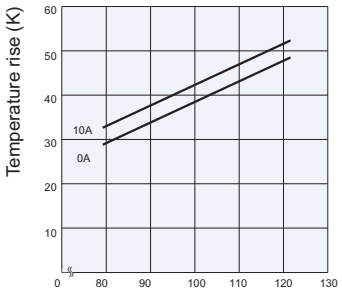


ENDURANCE CURVE



Test conditions:
Room temp., 1s on 1s off

COIL TEMPERATURE RISE



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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