HF161F MINIATURE HIGH POWER RELAY

File No.: E134517

File No.: 40031410

File No.:CQC10002050943
CQC18002203499

Features

- 4.5kV dielectric strength (between coil and contacts)
- Heavy load up to 6250VA
- Ideal for motor switching
- PCB layouts available
- UL insulation system: Class F

RoHS compliant

CONTACT DATA

Contact arrangement	1A
Contact resistance 1)	100mΩ max.(at 1A 6VDC)
Contact material	$AgSnO_2$, AgCdO
Contact rating	Resistive: 20A 250VAC Motor: 2HP 250VAC
Max. switching voltage	250VAC
Max. switching current	Resistive: 25A
Max. switching power	6250VA
Mechanical endurance	2 x 10^6OPS
Electrical endurance	HT type: 1 x 10^5OPS (20A 250VAC, Resistive load, Room temp., 1.5s on 1.5s off)

Notes: 1)The data shown above are initial values.

CHARACTERISTICS

Insulation resistance		1000MΩ (at 500VDC)
Dielectric strength	Between coil & contacts	4500VAC 1min
	Between open contacts	1000VAC 1min
Surge voltage (between coil & contacts)		10kV (1.2 / 50μs)
Operate time (at rated. volt.)		20ms max.
Release time (at rated. volt.)		10ms max.
Temperature rise (at rated. volt.)		60K max.
Shock resistance	Functional	196m/s²
	Destructive	980m/s²
Vibration resistance		10Hz to 55Hz 1.5mm DA
Ambient temperature		-40°C to 85°C
Humidity		5% to 85% RH
Termination		PCB
Unit weight		Approx. 21g
Construction		Flux proofed

Notes: The data shown above are initial values.

COIL

Coil power	Approx. 900mW

COIL DATA at 23°C

Nominal Voltage VDC	Pick-up Voltage VDC max.1)	Drop-out Voltage VDC min.1)	Max. Voltage VDC*2)	Coil Resistance Ω
5	3.5	0.5	6.0	27.8 x (1±10%)
12	8.4	1.2	14.4	160 x (1±10%)
24	16.8	2.4	28.8	640 x (1±10%)
48	33.6	4.8	57.6	2560 x (1±10%)

Notes: 1)The data shown above are initial values.
2)*Maximum voltage refers to the maximum voltage which relay coil could endure in a short period of time.

SAFETY APPROVAL RATINGS

UL/CUL	25A 250VAC at 85°C 20A 250VAC at 85°C 2HP 250VAC at 85°C
VDE	25A 250VAC at 85°C 20A 250VAC 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.

ORDERING INFORMATION

	HF161F /	12	-H	T	(XXX)
Type					
Coil voltage	5, 12, 24, 48VDC				
Contact arrangement	**H:** 1 Form A				
Contact matcrial	**T:** $AgSnO_2$	**Nil**: AgCdO			
Special code[3)]	**XXX:** Customer special requirement		**Nil:** Standard		

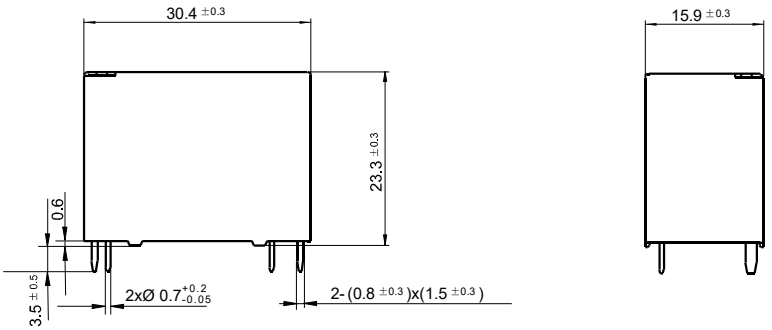
Notes: 1) Water cleaning or surface process is not suggested after the flux-proofed relays are assembled on PCB.
2) Flux-proofed relays can not be used in the environment with pollutants like H_2S, SO_2, NO_2, dust, etc.
3) The customer special requirement express as special code after evaluating by Hongfa. e.g. (414) stands for product with coil terminal of 1.4X0.4.
4) Two packing methods available: plastic tray package, tube package,Standard tube packing length is 592mm. Any special requirement needed, please contact us for more details.
5) For products that should meet the explosion-proof requirements of "IEC 60079 series",please note [Ex] after the specification while placing orders.Not all products have explosion-proof certification,so please contact us if necessary, in order to select the suitable products.

OUTLINE DIMENSIONS, WIRING DIAGRAM AND PC BOARD LAYOUT

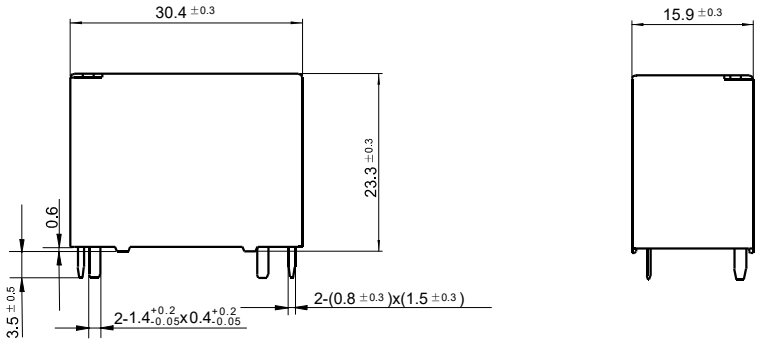
Unit: mm

Outline Dimensions

Standard type



(414) special code version

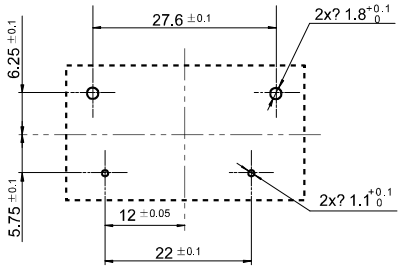


OUTLINE DIMENSIONS, WIRING DIAGRAM AND PC BOARD LAYOUT

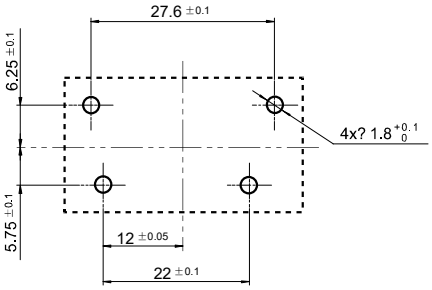
Unit: mm

PCB Layout (Bottom view)

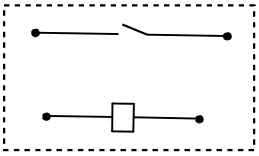
Standard type



(414) special code version



Wiring Diagram

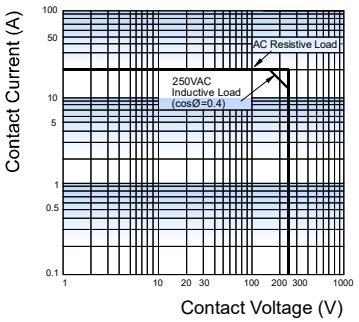


Remark: 1) In case of no tolerance shown in outline dimension: outline dimension ≤1mm, tolerance should be ±0.2mm; outline dimension >1mm and ≤5mm, tolerance should be ±0.3mm; outline dimension >5mm, tolerance should be ±0.4mm.

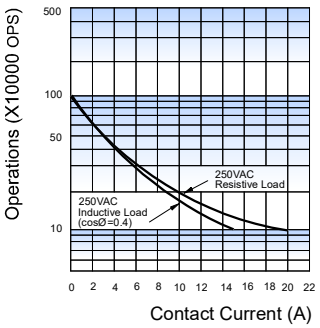
2) The tolerance without indicating for PCB layout is always ±0.1mm.

CHARACTERISTIC CURVES

MAXIMUM SWITCHING POWER



ENDURANCE CURVE



Test conditions:

Room temp., 1s on 9s off.

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.