HF46F

SUBMINIATURE INTERMEDIATE POWER RELAY

File No.: E134517 HF46F (Ħ) 12-HS1 5A 250VAC 5A 30VDC File No.: 40025215 CHINA (CQC)



Features

COIL Coil power

- 5A switching capability
- Meets VDE 0631 reinforce insulation
- Highly efficient magnetic circuit for high sensitivity: 200mW
- Extremely small footprint utilizing PCB area

File No.: CQC17002168380

CONTACT DATA

$\begin{array}{c} \mbox{Contact resistance}^{11} & 100 m\Omega \mbox{ max. (at 1A 6VDC} \\ \mbox{Contact material} & AgSnO2, AgN \\ \mbox{Contact rating} & 3A 250VAC/30VDC \\ \mbox{(Res. load)} & 5A 250VAC/30VDC \\ \mbox{(Res. load)} & 5A 250VAC/30VDC \\ \mbox{Max. switching voltage} & 277VAC / 30VDC \\ \mbox{Max. switching current} & 5/ \\ \mbox{Max. switching power} & 1385VA / 150V \\ \mbox{Mechanical endurance} & 5 x 10^6 \mbox{ops} (5A 250VAC, Resistive load \\ \mbox{AgNi, at 85°C, 1s on 1s of 5 x 10^4 \mbox{ops} (5A 250VAC, Resistive load \\ \mbox{5 x 10^4 \mbox{ops} (5A 250V$		
Contact material AgSnO2, AgN Contact rating 3A 250VAC/30VD0 (Res. load) 5A 250VAC/30VD0 Max. switching voltage 277VAC / 30VD0 Max. switching current 5/ Max. switching power 1385VA / 150V Mechanical endurance 5 x 10 ⁶ ope Electrical endurance AgNi, at 85°C, 1s on 1s of 5 x 10 ⁴ ops (5A 250VAC, Resistive load	Contact arrangement	1A
Contact rating3A 250VAC/30VDG(Res. load)5A 250VAC/30VDGMax. switching voltage277VAC / 30VDGMax. switching current5/Max. switching power1385VA / 150VMechanical endurance 5×10^6 opsElectrical enduranceAgNi, at 85°C, 1s on 1s of 5×10^4 ops (5A 250VAC, Resistive load 5×10^4 ops (5A 250VAC, Resistive load	Contact resistance ¹⁾	100mΩ max. (at 1A 6VDC)
(Res. load) 5A 250VAC/30VD0 Max. switching voltage 277VAC / 30VD0 Max. switching current 5/ Max. switching power 1385VA / 150W Mechanical endurance 5 x 10 ⁶ ope Electrical endurance AgNi, at 85°C, 1s on 1s of 5 x 10 ⁴ ops (5A 250VAC, Resistive load 5 x 10 ⁴ ops (5A 250VAC, Resistive load	Contact material	AgSnO2, AgNi
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Electrical endurance 1×10^5 OPS (5A 250VAC, Resistive load $AgNi, at 85^{\circ}C, 1s on 1s of 5 \times 10^4$ OPS (5A 250VAC, Resistive load	Max. switching power	1385VA / 150W
Electrical endurance $AgNi$, at 85°C, 1s on 1s of 5×10^4 ops (5A 250VAC, Resistive load	Mechanical endurance	5 x 10 ⁶ 0PS
5×10^4 OPS (5A 250 VAC, Resistive load		1 x 10 ⁵ OPS (5A 250VAC, Resistive load,
	Electrical endurance	AgNi, at 85°C, 1s on 1s off)
AgSnO ₂ , at 85°C, 3s on 3s of		5 x 10 ⁴ OPS (5A 250VAC, Resistive load,
		AgSnO ₂ , at 85°C, 3s on 3s off)

COIL D	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		
3	2.25	0.18	3.90	45 x (1±10%)		
5	3.75	0.25	6.50	125 x (1±10%)		
6	4.50	0.30	7.80	180 x (1±10%)		
9	6.75	0.45	11.7	405 x (1±10%)		
12	9.00	0.60	15.6	720 x (1±10%)		
18	13.5	0.90	23.4	1620 x (1±10%)		
24	18.0	1.20	31.2	2880 x (1±10%)		
Notes:1) The data shown above are initial values.						

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

CHARACTERISTICS

Insulation resistance			1000MΩ (at 500VDC			
Dielectric	Between	coil & contacts	4000VAC 1min			
strength	Between	open contacts	1000VAC 1mi			
Operate time (at rated. volt.)			10ms max			
Release time (at rated. volt.)			10ms max			
Oh a alu na aliata	iotopoo 1)	Functional	98m/s ²			
Shock resistance ¹⁾		Destructive	980m/			
Vibration resistance ¹⁾			10Hz to 55Hz 1.5mm DA			
Humidity			5% to 85% RH			
Ambient temperature			-40°C to 85°C			
Termination			PCE			
Unit weight			Approx. 3g			
Construction			Plastic seale			

Notes: 1) Shock malfunciton: 49m/s² for the length direction.

2) The data shown above are initial values. 3) UL insulation system: Class F, Class B.

Vibration: 10Hz to 55Hz 1mm DA for the length direciton.

2) * Maximum voltage refers to the maximum voltage which

relay coil could endure in a short period of time.

SAFETY APPROVAL RATINGS

		5A 125VAC/250VAC at 85°C
	AgNi	5A 277VAC/30VDC at 85°C
UL/CUL		3A 125VAC/250VAC at 85°C
		3A 277VAC/30VDC at 85°C
	AgSnO ₂	5A 125VAC/250VAC at 85°C
		5A 277VAC/30VDC at 85°C
		3A 125VAC/250VAC at 85°C
		3A 277VAC/30VDC at 85°C
		B300
		R300
VDE	AgNi	5A 250VAC/30VDC at 85°C
	AgSnO ₂	5A 250VAC/30VDC 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.



HONGFA RELAY ISO9001, IATF16949, ISO14001, OHSAS18001, IECQ QC 080000 CERTIFIED

2022 Rev. 1.00

Approx. 200mW

ORDERING INFORMATION									
Н	F46F /	12	-H	S	1	Т	G	F	(XXX)
Туре									
Coil voltage	3, 5, 6, 9, 12, 18,	24VDC							
Contact arrangement	H: 1 Form A								
Construction 1)2)	S: Plastic seale	S: Plastic sealed							
Termination	1: type 1								
Contact material ³⁾	T: AgSnO ₂	Nil: A	gNi						
Contact plating	G: Gold plated	Nil: N	lo gold p	lated			-		
Insulation standard	F: Class F	Nil: C	lass B						
Special code ⁵⁾	XXX: Customer special requirement		nent	Nil: S	Standard				

Notes: 1) We suggest to choose plastic sealed types and validate it in real application for an unclean environment (with contaminations like H₂S, SO₂, NO₂, dust, etc).

2) Contact is recommended for suitable condition and specifications if water cleaning or surface process is involved in assembling relays on PCB.

3) For the loads which can bring high inrush current when relay contacts connect istantly (eg. lamp, capacitive load), AgSnO2 contact material is recommended on priority.

4) For gold plated type, the min. switching current and min. switching voltage is 10mA 5VDC.

5) The customer special requirement express as special code after evaluating by Hongfa.

6) Two packing methods available: paper box package, plastic tray package, tube package. Standard tube packing length is 560mm. Any special requirement needed, please contact us for more details.

7) 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



Remark:1) The pin dimension of the product outline drawing is the size before tinning (it will become larger after tinning), and the mounting hole size is the recommended design size of the PCB board hole. The specific PCB board hole design size can be mapped and adjusted

according to the actual product.
2) 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.
3) The tolerance without indicating for PCB layout is always ±0.1mm.

CHARACTERISTIC CURVES

MAXIMUM SWITCHING POWER







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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