# HF46F-G

# SUBMINIATURE INTERMEDIATE POWER RELAY

c AU us

File No.: E134517



File No.: 40025215



File No.: CQC08001024932



# Features

- 10A switching capability
- 10kV impulse withstand voltage (between coil and contacts)
- Type 2 meets VDE 0700, 0631 reinforce insulation
- Highly efficient magnetic circuit for high sensitivity: 200mW
- Extremely small footprint utilizing PCB area
- Environmental friendly product (RoHS compliant)
- Outline Dimensions: (20.5 x 7.2 x 15.3) mm

CO	NT	AC1	ΓD/	ΑТА

Contact arrangement			1A	
Contact resistance			100mΩ (at 1A 24VDC	
Contact material			AgNi, AgSnO	
Contact rating (Res. load)			7A 250VAC / 28VDC	
Max. switching voltage			277VAC / 30VDC	
Max. switching current			10A	
Max. switching power			2770VA / 300W	
Mechanical endurance			5 x 10 <sup>6</sup> ops	
Electrical endurance	AgNi	1 x 10 <sup>5</sup> ops (at 7A 250VAC, 10ops/min)		
		1 x 10 <sup>4</sup> ops (at 10A 250VAC, 6ops/m		
		3 x 10 <sup>4</sup> ops (at 7A 250VAC, 10ops/min)		
	AgSnO2	1 x 10	0 <sup>4</sup> ops (at 10A 250VAC, 6ops/min)	

CHARACTERISTICS				
Insulation resistance			1000MΩ (at 500VDC)	
Dielectric	Between coil & contacts		4000VAC 1min	
strength	Between open contacts		1000VAC 1min	
Surge voltage			10kV (1.2X50μs)	
(between coil & contacts)				
Operate time (at nomi. volt.)			10ms max.	
Release time (at nomi. volt.)			10ms max.	
011		Functional	98m/s²	
Shock resistance		Destructive	980m/s²	
Vibration resistance			10Hz to 55Hz 1.5mm DA	
Humidity			98%, +40°C	
Ambient temperature			-40°C to 85°C	
Termination			PCB	
Unit weight		Approx. 3g		
Construction		Flux proofed, Wash tigh		

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

COIL	
Coil power	200mW

COIL D	ATA		at 23°C		
Nominal Voltage VDC	Pick-up Voltage VDC	Drop-out Voltage VDC	Max. Allowable Voltage VDC	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%)	

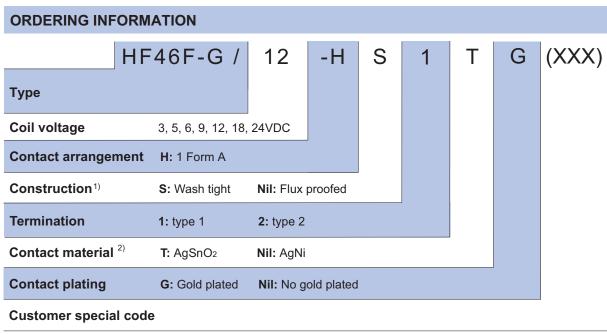
SAFETY APPROVAL RATINGS			
UL&CUL	AgNi	10A 125VAC/250VAC at 85°C 10A 277VAC/30VDC at 85°C 7A 125VAC/250VAC at 105°C 7A 277VAC/30VDC at 105°C	
	AgSnO <sub>2</sub>	10A 125VAC/250VAC at 85°C 10A 277VAC/30VDC at 85°C 7A 125VAC/250VAC at 85°C 7A 277VAC/30VDC at 85°C TV-3	
VDE	AgNi	7A 250VAC/30VDC at 105°C 10A 250VAC/30VDC at 85°C	
	AgSnO <sub>2</sub>	7A 250VAC/30VDC at 85°C 10A 250VAC/30VDC at 85°C	

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



HONGFA RELAY

ISO9001, ISO/TS16949, ISO14001, OHSAS18001, IECQ QC 080000 CERTIFIED



Notes: 1) Under the ambience with dangerous gas like H2S, SO2 or NO2, wash tight type is recommended; please test the relay in real applications. If the ambience allows, flux proofed is preferentially recommended.

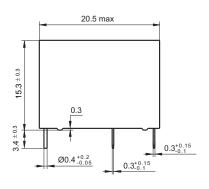
2) For the application of lamp (except LED), capacitive load, motor load or which can bring high inrush current when relay contacts connect instantly, AgSnO<sub>2</sub> contact material is recommended on priority.

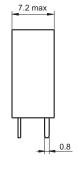
# **OUTLINE DIMENSIONS, WIRING DIAGRAM AND PC BOARD LAYOUT**

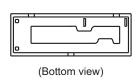
Unit: mm

# **Outline Dimensions**

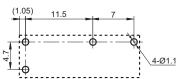
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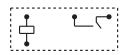






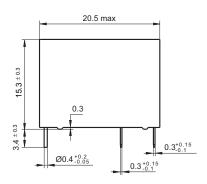


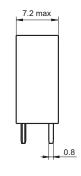
# Wiring Diagram (Bottom view)

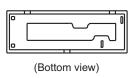


#### **Outline Dimensions**

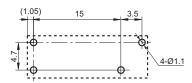
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# PCB Layout (Bottom view)





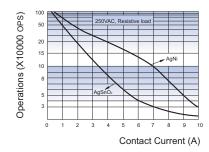


Remark: 1) In case of no tolerance shown in outline dimension: outline dimension  $\leq$ 1mm, tolerance should be  $\pm$ 0.2mm; outline dimension >1mm and  $\leq$ 5mm, tolerance should be  $\pm$ 0.3mm; outline dimension >5mm, tolerance should be  $\pm$ 0.4mm.

2) The tolerance without indicating for PCB layout is always  $\pm 0.1 \text{mm}$ .

# **CHARACTERISTIC CURVES**

#### **ENDURANCE CURVE**



# 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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