

HF140FF

MINIATURE INTERMEDIATE POWER RELAY



File No.:E134517



File No.:R50149131



File No.:CQC09002030294



Features

- 10A switching capability
- 5kV dielectric strength (between coil and contacts)
- 1.5mm contact gap available
- Sockets available
- Plastic sealed and flux proofed types available
- Environmental friendly product (RoHS compliant)
- Outline Dimensions: (29.0 x 13.0 x 26.3) mm

CONTACT DATA

Contact arrangement	2A, 2C
Contact resistance	50mΩ (at 1A 24VDC)
Contact material	AgSnO ₂ , AgNi, AgCdO
Contact rating (Res. load)	5A 250VAC
	10A 250VAC
	8A 30VDC
Max. switching voltage	250VAC / 30VDC
Max. switching current	10A
Max. switching power	2500VA / 240W
Mechanical endurance	Standard: 1 x 10 ⁷ OPS
	W type: 5 x 10 ⁵ OPS
Electrical endurance	1 x 10 ⁵ OPS

CHARACTERISTICS

Insulation resistance	1000MΩ (at 500VDC)	
Dielectric strength	Between coil & contacts	5000VAC 1min
	Between contacts sets	3000VAC 1min
	Between open contacts	W type:3000VAC 1min Standard:1000VAC 1min
Surge voltage (between coil & contacts)	10kV (1.2 x 50 μs)	
Operate time (at nomi. volt.)	15ms max.	
Release time (at nomi. volt.)	5ms max.	
Humidity	98% RH, 40°C	
Ambient temperature	-40°C to 85°C	
Shock resistance	Functional	98m/s ²
	Destructive	980m/s ²
Vibration resistance	10Hz to 55Hz 1.5mmDA	
Termination	PCB	
Unit weight	Approx. 18g	
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.

COIL

Coil power	Standard: Approx. 530mW W type: Approx. 800mW
------------	--

COIL DATA

at 23°C

Standard type

Nominal Voltage VDC	Pick-up Voltage VDC	Drop-out Voltage VDC	Max. Allowable Voltage VDC	Coil Resistance Ω
3	2.25	0.3	3.9	17 x (1±10%)
5	3.75	0.5	6.5	47 x (1±10%)
6	4.50	0.6	7.8	68 x (1±10%)
9	6.75	0.9	11.7	160 x (1±10%)
12	9.00	1.2	15.6	275 x (1±10%)
18	13.5	1.8	23.4	620 x (1±10%)
24	18.0	2.4	31.2	1100 x (1±10%)
48	36.0	4.8	62.4	4170 x (1±10%)
60	45.0	6.0	78.0	7000 x (1±10%)

W Type

Nominal Voltage VDC	Pick-up Voltage VDC	Drop-out Voltage VDC	Max. Allowable Voltage VDC	Coil Resistance Ω
3	2.25	0.3	3.3	11.3 x (1±10%)
5	3.75	0.5	5.5	31 x (1±10%)
6	4.50	0.6	6.6	45 x (1±10%)
9	6.75	0.9	9.9	101 x (1±10%)
12	9.00	1.2	13.2	180 x (1±10%)
18	13.5	1.8	19.8	405 x (1±10%)
24	18.0	2.4	26.4	720 x (1±10%)
48	36.0	4.8	52.8	2880 x (1±10%)
60	45.0	6.0	66.0	4500 x (1±10%)

Notes: When require pick-up voltage < 75% of nominal voltage, special order allowed.



HONGFA RELAY

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

2010 Rev. 1.00

SAFETY APPROVAL RATINGS

UL/CUL	Standard	AgCdO		TV-3 125VAC 10A 250VAC 10A 30VDC 1/4HP 240VAC 1/8HP 120VAC
		AgNi		10A 250VAC 10A 30VDC 12A 277VAC/250VAC Resistive at 70°C 1/3HP 125VAC at 40°C
		AgSnO ₂	2 Form A	10A 250VAC 10A 30VDC 12A 277VAC/250VAC Resistive at 70°C TV-5 120VAC at 40°C 1/3HP 125VAC at 40°C 3/4HP 250VAC at 40°C
			2 Form C	10A 250VAC 10A 30VDC 12A 277VAC/250VAC Resistive at 70°C 1/3HP 125VAC at 40°C NO:TV-5 120VAC at 40°C 3/4HP 250VAC at 40°C
	W type	AgCdO	2 Form A	TV-3 125VAC 10A 250VAC
		AgSnO ₂	2 Form A	12A 277VAC/250VAC Resistive at 70°C 1/3HP 125VAC at 40°C 3/4HP 250VAC at 40°C
TÜV		AgCdO	2 Form A	10A 250VAC
			2 Form C	10A 30VDC
		AgNi	2 Form A	12A 250VAC
			2 Form C	10A 250VAC
AgSnO ₂	2 Form A	12A 250VAC		

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

ORDERING INFORMATION

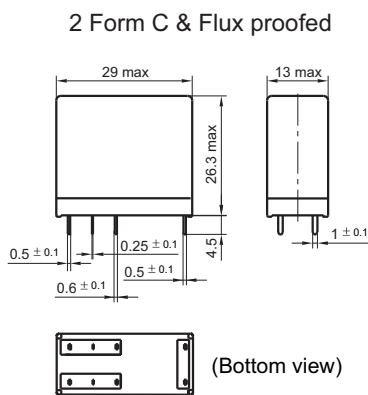
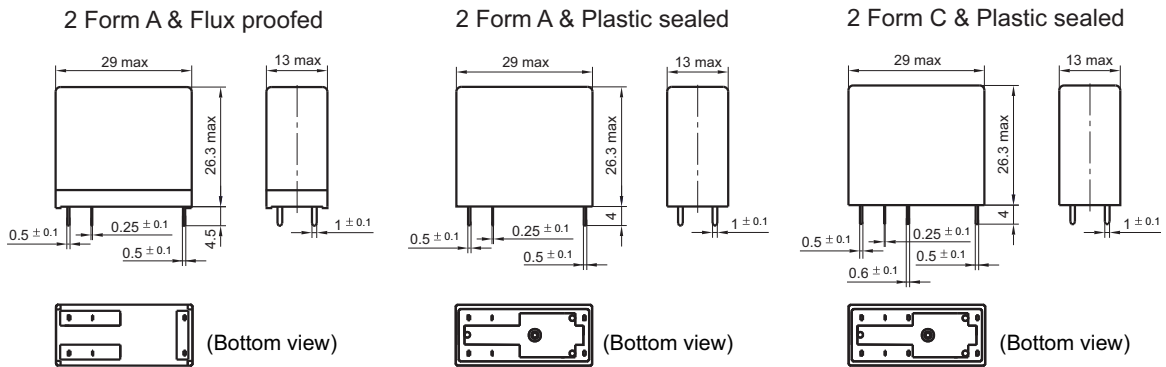
Type	HF140FF / 012 -2H S W T G (XXX)		
Coil voltage	3, 5, 6, 9, 12, 18, 24, 48, 60VDC		
Contact arrangement	2H: 2 Form A 2Z: 2 Form C		
Construction ¹⁾	S: Plastic sealed Nil: Flux proofed		
Contact Gap	W: 1.5mm (Only for 2 Form A) Nil: Standard		
Contact material	T: AgSnO ₂ 3: AgNi Nil: AgCdO		
Contact plating	G: Gold plated Nil: No gold plated		
Customer special code			

Notes: 1) We recommend flux proofed types for a clean environment (free from contaminations like H₂S, SO₂, NO₂, dust, etc.). 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).
If water cleaning is required after the relay is assembled on PCB, please contact us for suggestion about suitable parts.
2) The standard type is made of black cover. If smoke cover is required, please add a special suffix (611) when ordering. Please take note that smoke cover is only available for flux proofed type.

OUTLINE DIMENSIONS, WIRING DIAGRAM AND PC BOARD LAYOUT

Unit: mm

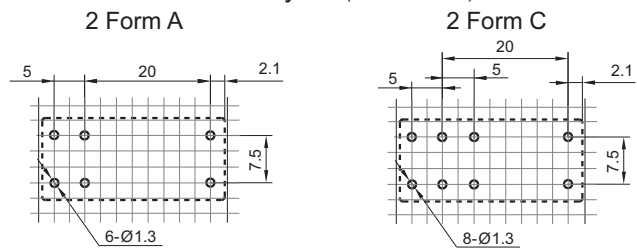
Outline Dimensions



Wiring Diagram (Bottom view)



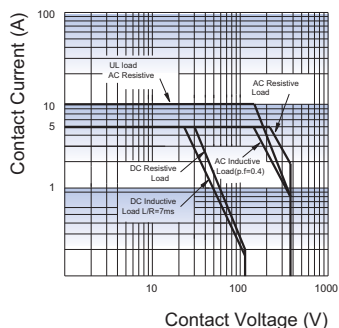
PCB Layout (Bottom view)



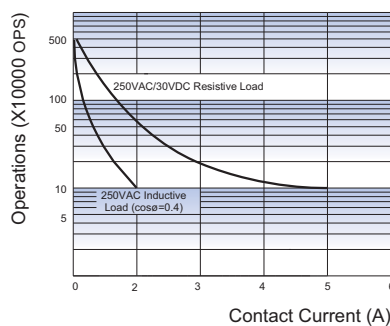
- Remark: 1) In case of no tolerance shown in outline dimension: outline dimension $\leq 1\text{mm}$, tolerance should be $\pm 0.2\text{mm}$; outline dimension $> 1\text{mm}$ and $\leq 5\text{mm}$, tolerance should be $\pm 0.3\text{mm}$; outline dimension $> 5\text{mm}$, tolerance should be $\pm 0.4\text{mm}$.
 2) The tolerance without indicating for PCB layout is always $\pm 0.1\text{mm}$.
 3) The width of the gridding is 2.5mm.

CHARACTERISTIC CURVES

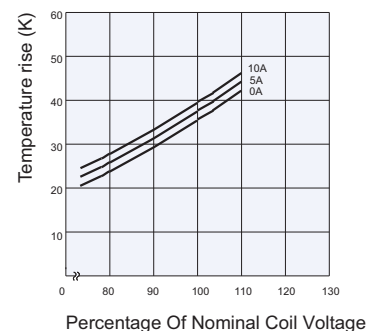
MAXIMUM SWITCHING POWER



ENDURANCE CURVE



COIL TEMPERATURE RISE



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.

© Xiamen Hongfa Electroacoustic Co., Ltd. All rights of Hongfa are reserved.