

# HF140FF (JZX-140FF) MINIATURE INTERMEDIATE POWER RELAY



File No.:E134517



File No.:R50055991



File No.:CQC02001001940



## Features

- 10A switching capability
- 5kV dielectric strength (between coil and contacts)
- 1.5mm contact gap available
- Sockets available
- Wash tight 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 <sub>2</sub> , AgNi, AgCdO
Contact rating (Res. load)	5A 250VAC
	10A 250VAC
	8A 30VDC
Max. switching voltage	250VAC / 30VDC
Max. switching current	10A
Max. switching power	2500VAC / 240W
Mechanical endurance	Standard: 1 x 10 <sup>7</sup> OPS
	W type: 5X10 <sup>5</sup> OPS
Electrical endurance	1 x 10 <sup>5</sup> 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(at 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	100m/s <sup>2</sup> (10g)
	Destructive	1000m/s <sup>2</sup> (100g)
Vibration resistance	10Hz to 55Hz 1.5mmDA	
Termination	PCB	
Unit weight	Approx. 18g	
Construction	Wash tight, 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
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## 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%)



ISO9001、ISO/TS16949、ISO14001、OHSAS18001 CERTIFIED

2007 Rev. 2.00

**COIL DATA**

at 23°C

**W Type**

Nominal Voltage VDC	Pick-up Voltage VDC	Drop-out Voltage VDC	Max. Allowable Voltage VDC	Coil Resistance $\Omega$
3	2.25	0.3	3.9	11.3 x (1±10%)
5	3.75	0.5	6.5	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.

**SAFETY APPROVAL RATINGS**

<b>UL&amp;CUR</b>	10A 250VAC
	10A 30VDC
	8A 30VDC
	TV-3 125VAC
	1/4 HP 240VAC
	1/8HP 120VAC
<b>TÜV</b>	5A 250VAC
	5A 30VDC

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

**ORDERING INFORMATION**

**HF140FF / 012 -2H S W T G F (XXX)**

**Type**<sup>1)</sup> HF140FF  
JZX-140FF (Old type)

**Coil voltage** 3,5,6,9,12,18,24, 48, 60VDC

**Contact arrangement** 2H: 2 Form A 2Z: 2 Form C

**Construction**<sup>2)</sup> S: Wash tight Nil: Flux proofed

**Contact Gap** W: 1.5mm (Only for 2 Form A) Nil: Standard

**Contact material** T: AgSnO<sub>2</sub> 3: AgNi Nil: AgCdO

**Contact plating** G: Gold plated Nil: No gold plated

**Insulation system** F: Class F Nil: Class B

**Customer special code**<sup>3)</sup> e.g. (551) stands for RoHS compliant (Cadmium containing contacts)  
(Only for special requirements) (555) stands for RoHS compliant (Cadmium-free contacts)

**Notes:** 1) We have now gradually updated our ordering information. We suggest new type should be selected. If necessary, old type can be kept for some period for the old customers.

2) Under the ambience with dangerous gas like H<sub>2</sub>S, SO<sub>2</sub> or NO<sub>2</sub>, wash tight type is recommended; please test the relay in real applications. If the ambience allows, flux proofed is preferentially recommended.

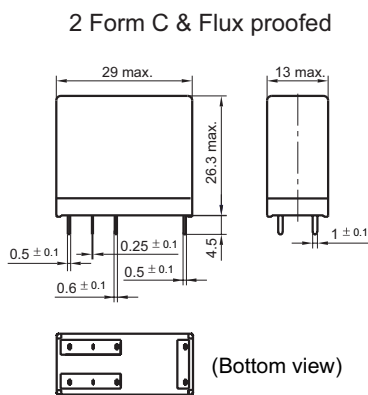
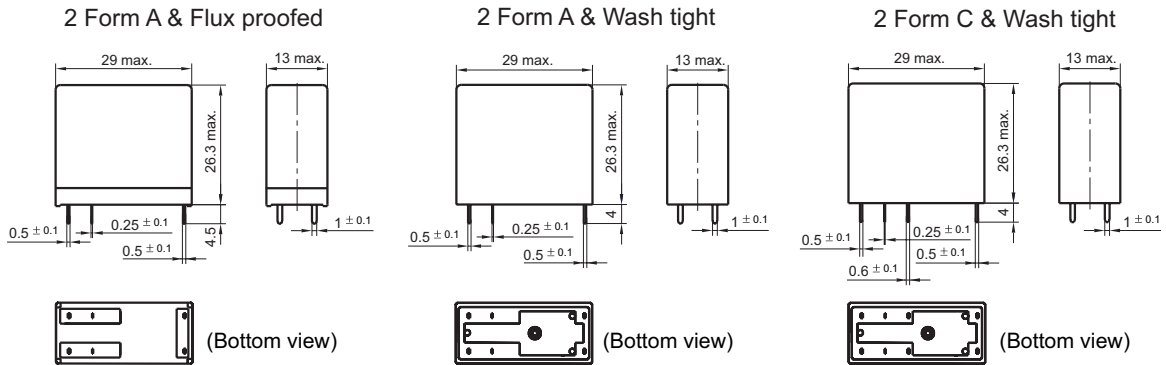
3) HF140FF is an environmental friendly product. Please mark a special code (555) or (551) when ordering. (551) stands RoHS compliant with Cadmium contact; (555) stands for RoHS compliant with Cadmium-free contact.

4) Standard version is with black cover. Smoke dust cover is available.

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

Unit: mm

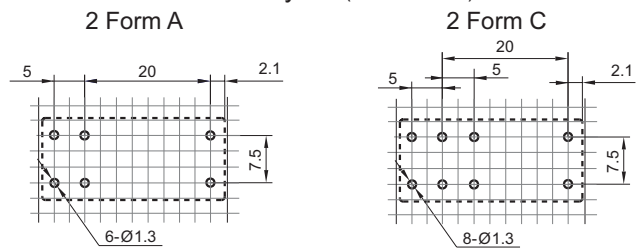
**Outline Dimensions**



**Wiring Diagram (Bottom view)**



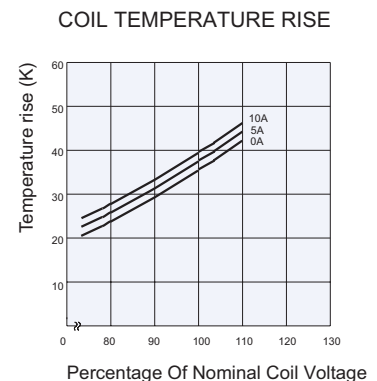
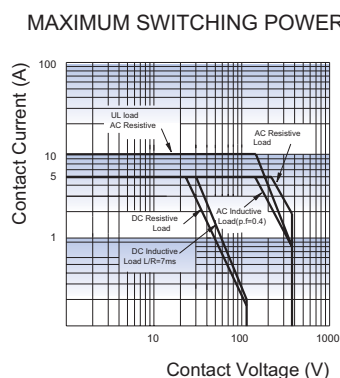
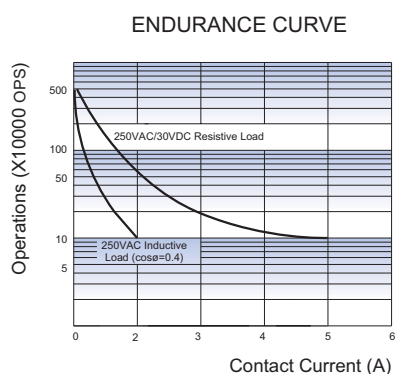
**PCB Layout (Bottom view)**



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.

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**CHARACTERISTIC CURVES**



**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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