

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 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 | 2500VAC / 240W |
| Mechanical endurance | Standard: 1 x 10 ⁷ OPS |
| | W type: 5X10 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(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 ² (10g) |
| | Destructive | 1000m/s ² (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 |
|------------|--|

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%) |

COIL DATA

at 23°C

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 | 3.9 | 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

| | |
|-------------------|---------------|
| UL&CUR | 10A 250VAC |
| | 10A 30VDC |
| | 8A 30VDC |
| | TV-3 125VAC |
| | 1/4 HP 240VAC |
| | 1/8HP 120VAC |
| TÜV | 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 ¹⁾ | 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 ²⁾ | S: Wash tight 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 |
| Insulation system | F: Class F Nil: Class B |
| Customer special code ³⁾ (Only for special requirements) | e.g. (551) stands for RoHS compliant (Cadmium containing contacts) (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 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.

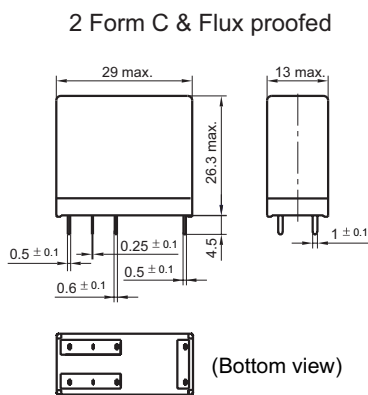
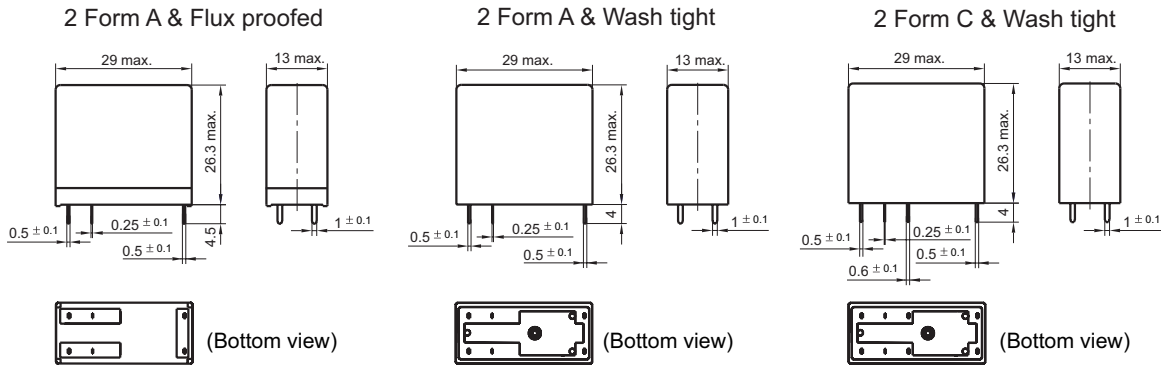
3) HF140FF is an environmental friendly product. Please mark a special code (555) or (551) when ordering. (551) stands RoHS compliant with Cadmium contact; (555) stands for RoHS compliant with Cadmium-free contact.

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

OUTLINE DIMENSIONS, WIRING DIAGRAM AND PC BOARD LAYOUT

Unit: mm

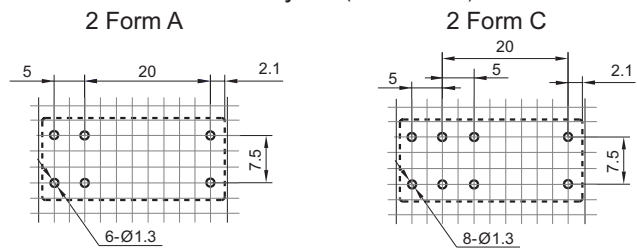
Outline Dimensions



Wiring Diagram (Bottom view)

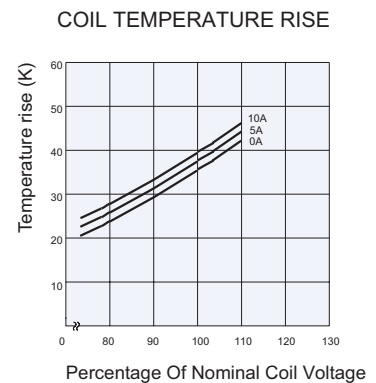
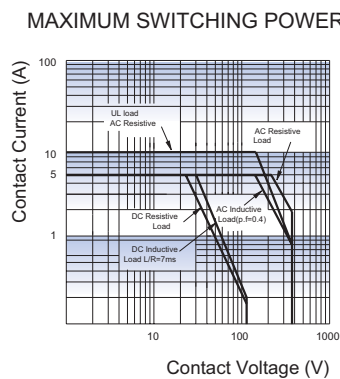
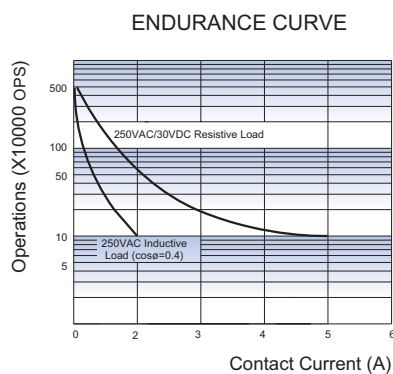


PCB Layout (Bottom view)



- 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.

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.