

HF115FD

MINIATURE HIGH POWER RELAY



File No.:134517



File No.:116934



Features

- 16A switching capability
- Low height: 15.7 mm
- 5kV dielectric strength (between coil and contacts)
- Creepage distance: 10mm
- Meet reinforce insulation
- Product in accordance to IEC 60335-1 available
- Sockets available
- Class F & Class B insulation system
- Environmental friendly product (RoHS compliant)
- Outline Dimensions: (29.0 x 12.7 x 15.7) mm

CONTACT DATA

| | |
|----------------------------|--|
| Contact arrangement | 1A, 1C |
| Contact resistance | 100mΩ max.(at 1A 6VDC) |
| Contact material | See ordering info. |
| Contact rating (Resistive) | 12A/16A 250VAC |
| Max. switching voltage | 440VAC / 300VDC |
| Max. switching current | 12A / 16A |
| Max. switching power | 3000VA / 4000VA |
| Mechanical endurance | 1 x 10 ⁷ OPS |
| Electrical endurance | 1 x 10 ⁵ OPS (See approval reports for more details) |

CHARACTERISTICS

| | | |
|---|-------------------------|---------------------|
| Insulation resistance | 1000MΩ (at 500VDC) | |
| Dielectric strength | Between coil & contacts | 5000VAC 1min |
| | Between open contacts | 1000VAC 1min |
| Surge voltage (between coil & contacts) | 10kV (1.2 x 50μs) | |
| Operate time (at nomi. volt.) | 15ms max. | |
| Release time (at nomi. volt.) | 8ms max. | |
| Temperature rise (at nomi. volt.) | 55K max. | |
| Shock resistance * | Functional | 98m/s ² |
| | Destructive | 980m/s ² |
| Vibration resistance * | 10Hz to150Hz 10g/5g | |
| Humidity | 35% to 85% RH | |
| Ambient temperature | -40°C to 85°C | |
| Termination | PCB | |
| Unit weight | Approx. 13.5g | |
| Construction | Flux proofed | |

Notes: 1) The data shown above are initial values.
2) * Index is not that of relay length direction.

COIL

| | |
|------------|---------------|
| Coil power | Approx. 400mW |
|------------|---------------|

COIL DATA

at 23°C

| Nominal Voltage VDC | Pick-up Voltage VDC max. | Drop-out Voltage VDC min. | Max. Allowable Voltage VDC * | Coil Resistance Ω |
|---------------------|--------------------------|---------------------------|------------------------------|-------------------|
| 5 | 3.50 | 0.5 | 7.5 | 62 x (1±10%) |
| 6 | 4.20 | 0.6 | 9.0 | 90 x (1±10%) |
| 9 | 6.30 | 0.9 | 13.5 | 202 x (1±10%) |
| 12 | 8.40 | 1.2 | 18 | 360 x (1±10%) |
| 18 | 12.60 | 1.8 | 27 | 810 x (1±10%) |
| 24 | 16.80 | 2.4 | 36 | 1440 x (1±10%) |
| 48 | 33.60 | 4.8 | 72 | 5760 x (1±15%) |

Notes: * The max. allowable voltage refers to the maximum value in a varying range of pick-up voltage, not the voltage for continuous operation.

SAFETY APPROVAL RATINGS

| | | |
|--------|--------------------|--------------------|
| UL/CUL | AgNi | 12A 250VAC |
| | AgSnO ₂ | 16A 250VAC |
| VDE | AgNi | 12A 250VAC at 85°C |
| | AgSnO ₂ | 16A 250VAC 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

2011 Rev. 1.00T

ORDERING INFORMATION

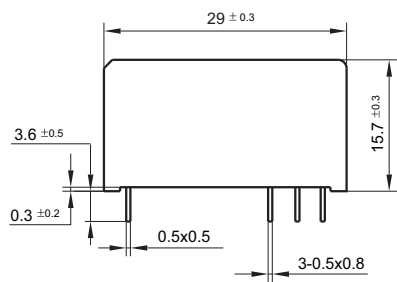
| | | | | | | | |
|-----------------------|-------------------------|-----|---------------------|---|---------------------|---|-------|
| Type | HF115FD / | 012 | -1H | 3 | A | F | (XXX) |
| Coil voltage | 5, 6, 12, 18, 24, 48VDC | | | | | | |
| Contact arrangement | 1H: 1 Form A | | 1Z: 1 Form C | | | | |
| Version | 1: 3.5mm 1 pole 12A | | 2: 5.0mm 1 pole 12A | | 3: 5.0mm 1 pole 16A | | |
| Contact material | A: AgSnO ₂ | | B: AgNi | | | | |
| Insulation standard | F: Class F | | Nil: Class B | | | | |
| Customer special code | | | | | | | |

OUTLINE DIMENSIONS, WIRING DIAGRAM AND PC BOARD LAYOUT

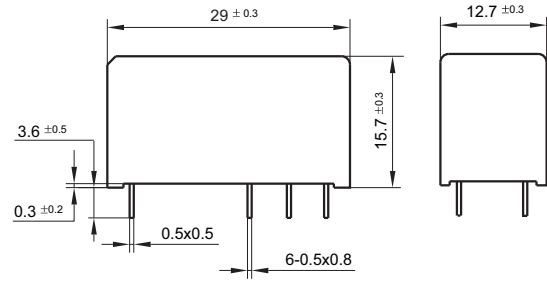
Unit: mm

Outline Dimensions

3.5mm Pinning (HF115FD/ □□□ -□□ -1-□)

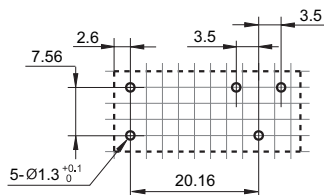


5mm Pinning (HF115FD/ □□□ -□□ -2/3-□)

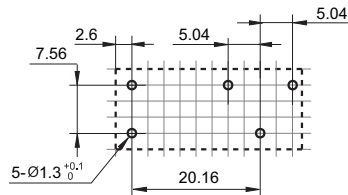


PCB Layout (Bottom view)

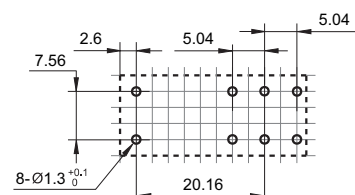
3.5mm Pinning, 1 Pole



5mm Pinning, 1 Pole



5mm Pinning, 1 Pole



Wiring Diagram (Bottom view)

3.5/5mm Pinning, 1 Pole, 12A, HF115FD/ □□□ -□□ -□ -1/2 -□



1 Form A

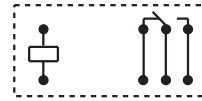


1 Form C

5mm Pinning, 1 Pole, 16A, HF115FD/ □□□ -□□□ -□ -3 -□



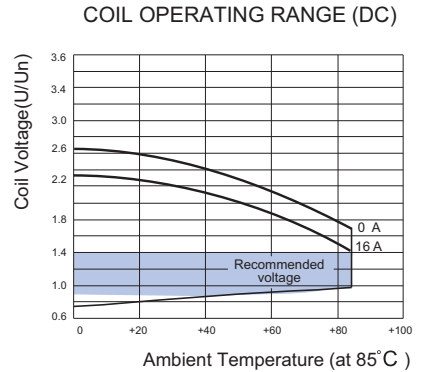
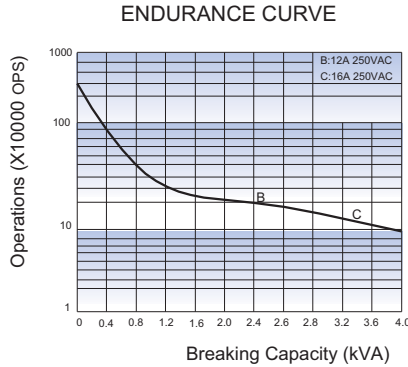
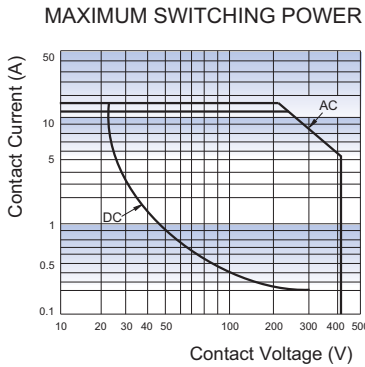
1 Form A



1 Form C

- 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 2.52mm.

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.