

HF115F-I

MINIATURE HIGH POWER RELAY



File No.:E134517



File No.:116934



File No.:CQC08002028130



Features

- High inrush: TV-5 80A (NO contact, at 125VAC)
- Low height: 15.7 mm
- 5kV dielectric strength (between coil and contacts)
- Creepage distance: 10mm
- Meeting VDE 0700, 0631 reinforce insulation
- Product in accordance to IEC 60335-1 available
- Sockets available
- Plastic sealed and flux proofed types available
- 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 (at 1A 6VDC) |
| Contact material | AgSnO ₂ |
| Contact rating | 16A 250VAC |
| Inrush rating (at 125VAC) | NO: TV-5 80A |
| Max. switching voltage | 440VAC / 125VDC |
| Max. switching current | 16A |
| Max. switching power | 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 to 150Hz 20g/5g | |
| Humidity | 35% to 85% RH | |
| Ambient temperature | -40°C to 85°C | |
| Termination | PCB | |
| Unit weight | Approx. 13.5g | |
| Construction | Plastic sealed, Flux proofed | |

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

COIL

| | |
|------------|-------|
| Coil power | 400mW |
|------------|-------|

COIL DATA

at 23°C

| Nominal Voltage VDC | Pick-up Voltage VDC | Drop-out Voltage VDC | 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 | 12.6 | 1.8 | 27 | 810 x (1±10%) |
| 24 | 16.8 | 2.4 | 36 | 1440 x (1±10%) |
| 48 | 33.6 | 4.8 | 72 | 5760 x (1±15%) |
| 60 | 42.0 | 6.0 | 90 | 7500 x (1±15%) |
| 110 | 77.0 | 11.0 | 165 | 25200 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 | HF115F-I....1Z(S)3A | NO: 16A 250VAC at 85°C |
| | HF115F-I....1H(S)3A | 16A 250VAC at 40°C |
| VDE | HF115F-I....1H(S)3A | 16A 250VAC at 85°C |
| | HF115F-I....1Z(S)3A | NO: 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

2010 Rev. 1.00

ORDERING INFORMATION

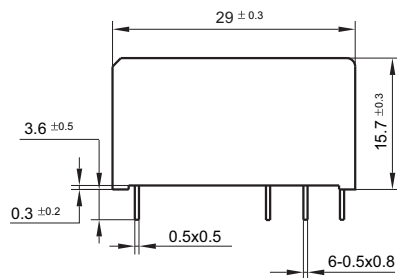
| | | | | | | |
|--------------------------------|--|--|-------------------|--|--|--|
| Type | HF115F-I / 012 -1H S 3 A (XXX) | | | | | |
| Coil voltage | 5, 6, 9, 12, 18, 24, 48, 60, 110VDC | | | | | |
| Contact arrangement | 1H: 1 Form A | | 1Z: 1 Form C | | | |
| Construction ¹⁾ | S: Plastic sealed | | Nil: Flux proofed | | | |
| Version | 3: 5.0mm | | | | | |
| Contact material ²⁾ | A: AgSnO ₂ | | | | | |
| Customer special code | e.g. (335) stands for product in accordance to IEC 60335-1 (GWT) | | | | | |

- 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) For the applications of inductive load mainly, AgSnO₂ contact material containing In₂O₃ is recommended. Please add the special code (325).

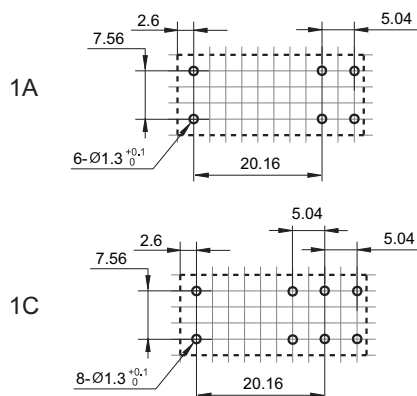
OUTLINE DIMENSIONS, WIRING DIAGRAM AND PC BOARD LAYOUT

Unit: mm

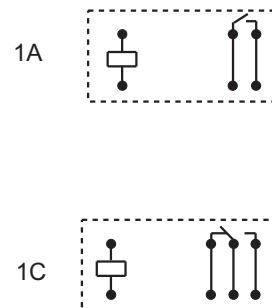
Outline Dimensions



PCB Layout (Bottom view)



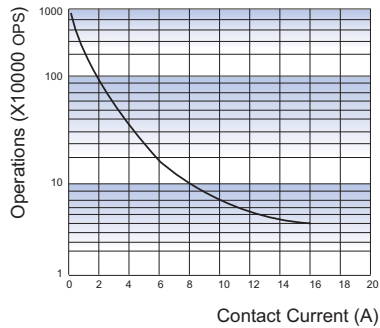
Wiring Diagram (Bottom view)



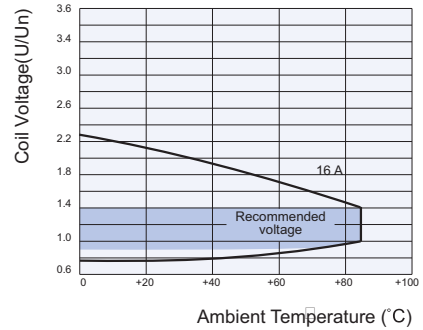
- Remark: 1) In case of no tolerance shown in outline dimension: outline dimension ≤ 1 mm, tolerance should be ± 0.2 mm; outline dimension > 1 mm and ≤ 5 mm, tolerance should be ± 0.3 mm; outline dimension > 5 mm, tolerance should be ± 0.4 mm.
- 2) The tolerance without indicating for PCB layout is always ± 0.1 mm.
- 3) The width of the gridding is 2.52mm.

CHARACTERISTIC CURVES

ENDURANCE CURVE



COIL OPERATING RANGE (DC) *



Notes: * The use of a relay with an energising voltage other than the rated coil voltage may lead to reduced electrical life.
An energising voltage over the abver range may damage the insulation of relay coil.

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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