

HFD23

SUBMINIATURE SIGNAL RELAY



File No.:E133481



File No.:CQC02001001948



Features

- Max.2A switching capability
- High sensitive: 150mW
- 1 Form C configuration
- Wash tight type available
- Environmental friendly product (RoHS compliant)
- Outline Dimensions: (12.5 x 7.5 x 10.0) mm

CONTACT DATA

| | |
|----------------------------|--|
| Contact arrangement | 1C |
| Contact resistance | 100mΩ (at 0.1A 6VDC) |
| Contact material | AgNi +Au plated |
| Contact rating (Res. load) | 0.5A 125VAC / 1A 30VDC |
| Max. switching voltage | 125VAC / 60VDC |
| Max. switching current | 2A |
| Max. switching power | 62.5VA / 30W |
| Min. permissible load | 1mA 5V |
| Mechanical endurance | 1 x 10 ⁷ OPS (300 OPS/min.) |
| Electrical endurance | 1 x 10 ⁵ OPS (30 OPS/min.) |

CHARACTERISTICS

| | | |
|----------------------------------|-------------------------|--------------|
| Insulation resistance | 1000MΩ (at 500VDC) | |
| Dielectric strength | Between coil & contacts | 1000VAC 1min |
| | Between open contacts | 400VAC 1min |
| Operate time (at nomi. volt.) | 5ms max. | |
| Release time (at nomi. volt.) | 5ms max. | |
| Bounce time (at nomi.volt.) | Approx. 5ms | |
| Temperature rise (at nomi.volt.) | 65K max. | |
| Shock resistance | 98m/s ² | |
| Vibration resistance | 10Hz to 55Hz 3.3mm DA | |
| Humidity | 98% RH, 40°C | |
| Ambient temperature | -30°C to 70°C | |
| Unit weight | Approx. 2.2g | |
| Termination | PCB (DIP) | |
| Construction | Wash tight | |

Notes: The data shown above are initial values.

COIL

| | |
|------------|----------------------------------|
| Coil power | Sensitive:150mW; Standard: 200mW |
|------------|----------------------------------|

COIL DATA

at 23°C

Standard type (200mW)

| Nominal Voltage VDC | Pick-up Voltage VDC | Drop-out Voltage VDC | Max. Allowable Voltage VDC | Coil Resistance Ω |
|---------------------|---------------------|----------------------|----------------------------|-------------------|
| 1.5 | 1.20 | 0.15 | 2.25 | 11.3 x (1±10%) |
| 3 | 2.40 | 0.30 | 4.5 | 45 x (1±10%) |
| 5 | 4.00 | 0.50 | 7.5 | 125 x (1±10%) |
| 6 | 4.80 | 0.60 | 9.0 | 180 x (1±10%) |
| 9 | 7.20 | 0.90 | 13.5 | 405 x (1±10%) |
| 12 | 9.60 | 1.20 | 18.0 | 720 x (1±10%) |
| 24 | 19.20 | 2.40 | 36.0 | 2880 x (1±15%) |

Sensitive type (150mW)

| Nominal Voltage VDC | Pick-up Voltage VDC | Drop-out Voltage VDC | Max. Allowable Voltage VDC | Coil Resistance Ω |
|---------------------|---------------------|----------------------|----------------------------|-------------------|
| 1.5 | 1.20 | 0.15 | 2.25 | 15 x (1±10%) |
| 3 | 2.40 | 0.30 | 4.5 | 60 x (1±10%) |
| 5 | 4.00 | 0.50 | 7.5 | 167 x (1±10%) |
| 6 | 4.80 | 0.60 | 9.0 | 240 x (1±10%) |
| 9 | 7.20 | 0.90 | 13.5 | 540 x (1±10%) |
| 12 | 9.60 | 1.20 | 18.0 | 960 x (1±10%) |
| 24 | 19.20 | 2.40 | 36.0 | 3840 x (1±15%) |

SAFETY APPROVAL RATINGS

UL&CUL

1.0A 30VDC
0.3A 60VDC
0.5A 125VAC

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

2008 Rev. 1.00

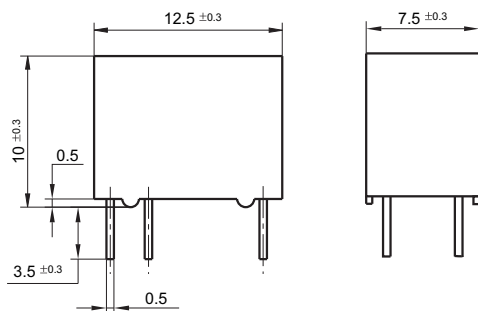
ORDERING INFORMATION

| | |
|-----------------------|--|
| Type | HFD23 / 012 -1Z S (XXX) |
| Coil voltage | 1.5, 3, 5, 6, 9, 12, 24VDC |
| Contact arrangement | 1Z: 1 Form C |
| Coil power | S: Sensitive type (150mW) P: Standard type (200mW) |
| Customer special code | |

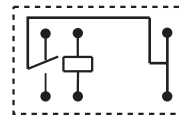
OUTLINE DIMENSIONS, WIRING DIAGRAM AND PC BOARD LAYOUT

Unit: mm

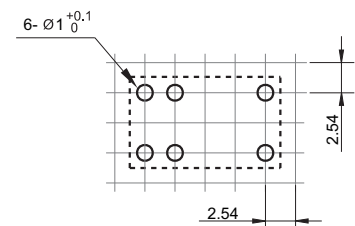
Outline Dimensions



Wiring Diagram
(Bottom view)



PCB Layout
(Bottom view)



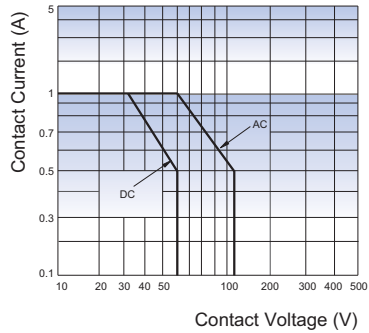
- Remark: 1) In case of no tolerance shown in outline dimension: outline dimension ≤ 1 mm, tolerance should be ± 0.2 mm; outline dimension > 1 mm and ≤ 5 mm, tolerance should be ± 0.3 mm; outline dimension > 5 mm, tolerance should be ± 0.4 mm.
 2) The tolerance without indicating for PCB layout is always ± 0.1 mm.
 3) The width of the gridding is 2.54mm.

Referencias Electrónica Embajadores:

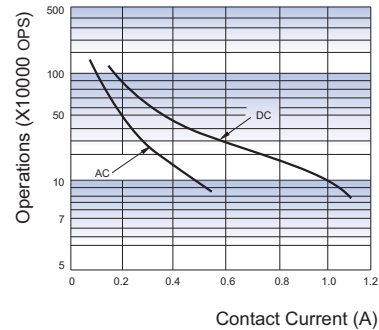
RL4A005: 5V
 RL4A012: 12V
 RL4A024: 24V

CHARACTERISTIC CURVES

MAXIMUM SWITCHING POWER



ENDURANCE CURVE



Notice

- 1) To avoid using relays under strong magnetic field which will change the parameters of relays such as pick-up voltage and drop-out voltage.
- 2) The relay may be damaged because of falling or when shocking conditions exceed the requirement.
- 3) Regarding the wash tight relay, we should leave it cooling naturally until below 40°C after welding, then clean it and deal with coating, remarkably the temperature of solvents should also be controlled below 40°C. Please avoid cleaning the relay by ultrasonic, avoid using the solvents like gasoline, Freon, and so on, which would affect the configuration of relay or influence the environment.
- 4) About preferable condition of operation, storage and transportation, please refer to "Explanation to terminology and guidelines of relay".

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.