

# HF41F

# SUBMINIATURE POWER RELAY



File No.:E133481



## Features

- Slim size (width 5mm)
- High breakdown voltage 4kV (between coil and contacts)
- Surge voltage up to 6kV (between coil and contacts)
- Clearance/creepage distance: 8mm
- High sensitive: 170mW
- 1 Form A and 1 Form C configurations
- Environmental friendly product available (RoHS compliant)
- Outline Dimensions: 28.0 x 5.0 x 15.0mm

## CONTACT DATA

|                                 |  |
|---------------------------------|--|
| Contact arrangement             | 1A, 1C   |
| Initial contact Resistance Max. | 100mΩ (at 1A 6VDC)<br>Gold plated: 30mΩ (at 1A 6VDC) |
| Contact material                | AgNi   |
| Contact rating (Res. load)      | 6A 250VAC/30VDC                                      |
| Max. switching voltage          | 400VAC / 125VDC                                      |
| Max. switching current          | 6A   |
| Max. switching power            | 1500VA / 180W  |
| Mechanical life                 | 1 x10 <sup>7</sup> OPS                               |
| Electrical life                 | NO/NC: 1x10 <sup>4</sup> OPS (at 85°C)               |

## CHARACTERISTICS

|                               |                         |                     |
|-------------------------------|-------------------------|---------------------|
| Initial insulation resistance | 1000MΩ (at 500VDC)      |                     |
| Dielectric strength           | Between coil & contacts | 4000VAC 1 min.      |
|                               | Between open contacts   | 1000VAC 1 min.      |
| Operate time (at nomi.volt.)  | Max. 8ms                |                     |
| Release time (at nomi.volt.)  | Max. 4ms                |                     |
| Shock resistance              | Functional              | 49m/s <sup>2</sup>  |
|                               | Destructive             | 980m/s <sup>2</sup> |
| Vibration resistance          | 10 to 55Hz 1mm DA       |                     |
| Humidity                      | 5 to 85% RH             |                     |
| Ambient temperature           | -40°C to +85°C          |                     |
| Termination                   | PCB                     |                     |
| Unit weight                   | 5.4g                    |                     |
| Construction                  | Sealed IP67, Flux proof |                     |

## COIL

|            |                     |
|------------|---------------------|
| Coil power | 5 to 24VDC: 170mW   |
|            | 48VDC, 60VDC: 210mW |

## COIL DATA

at 20°C

| Nominal Voltage (VDC) | Pick-up Voltage (VDC) | Drop-out Voltage (VDC) | Max. Allowable Voltage (VDC) 85°C | Coil Resistance (Ω) |
|-----------------------|-----------------------|------------------------|-----------------------------------|---------------------|
| 5                     | 3.75                  | 0.25                   | 6.50                              | 147 ± 10%           |
| 6                     | 4.50                  | 0.30                   | 7.80                              | 212 ± 10%           |
| 9                     | 6.75                  | 0.45                   | 11.7                              | 476 ± 10%           |
| 12                    | 9.00                  | 0.60                   | 15.6                              | 848 ± 10%           |
| 18                    | 13.5                  | 0.90                   | 23.4                              | 1906 ± 15%          |
| 24                    | 18.0                  | 1.20                   | 31.2                              | 3390 ± 15%          |
| 48                    | 36.0                  | 2.40                   | 62.4                              | 10600 ± 15%         |
| 60                    | 45.0                  | 3.00                   | 78.0                              | 16600 ± 15%         |

**Notes:** 1) When require pick-up voltage=70% nominal voltage, special order allowed .

2) When install 1 Form C type of HF41F, please do not make the relay side with 5mm width down.

## SAFETY APPROVAL RATINGS

|        |                      |
|--------|----------------------|
| UL&CUR | 6A 30VDC             |
|        | Resistive: 6A 277VAC |
|        | Pilot duty: R300     |



HONGFA RELAY

ISO9001、ISO/TS16949、ISO14001、OHSAS18001 CERTIFIED

2006 Rev. 1.30

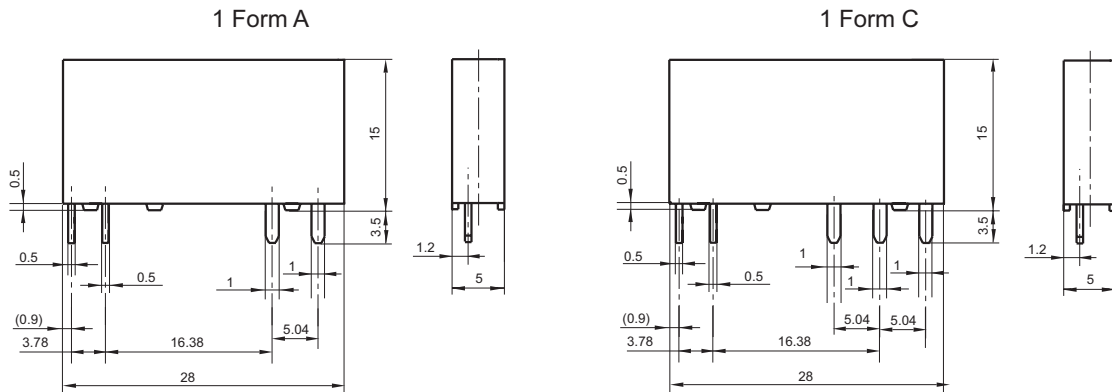
## ORDERING INFORMATION

|                       |   |    |                     |   |   |     |
|-----------------------|---|----|---------------------|---|---|-----|
| Type                  | HF41F /   | 12 | H                   | S | G | XXX |
| Coil voltage          | 5, 6, 9, 12, 18, 24, 48, 60VDC                                    |    |                     |   |   |     |
| Contact arrangement   | H: 1 Form A   |    | Z: 1 Form C         |   |   |     |
| Construction          | S: Sealed IP67  |    | Nil: Flux proof     |   |   |     |
| Contact plating       | G: Gold plated  |    | Nil: No gold plated |   |   |     |
| Customer special code | Only for special requirements, e.g. 555 stands for RoHS compliant |    |                     |   |   |     |

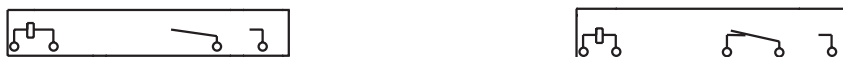
## OUTLINE DIMENSIONS, WIRING DIAGRAM AND PC BOARD LAYOUT

Unit: mm

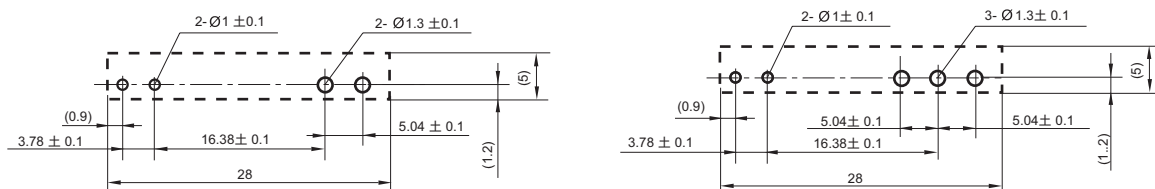
### Outline Dimensions



### Wiring Diagram

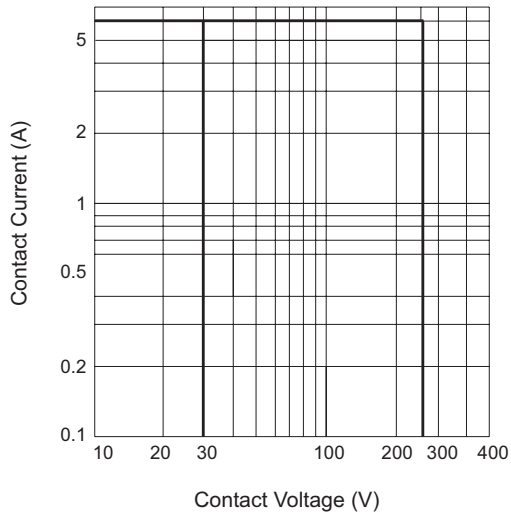


### PCB Layout

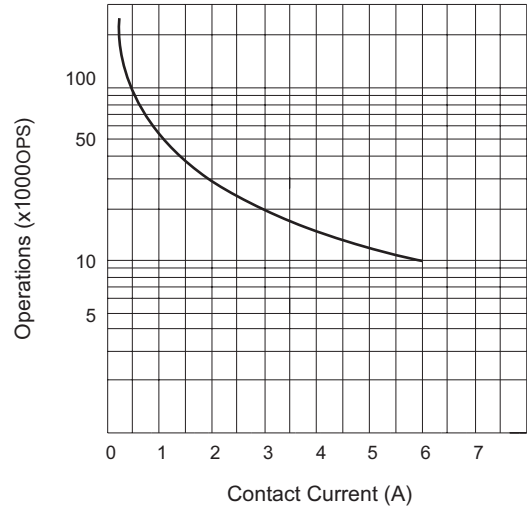


## CHARACTERISTIC CURVE

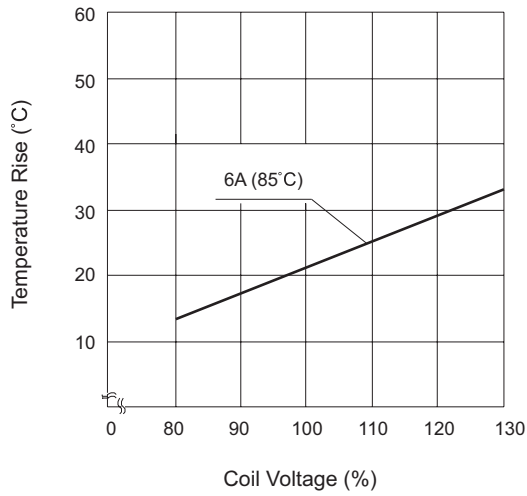
MAX. SWITCHING POWER



LIFE CURVE



COIL TEMPERATURE RISE



### 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.