

HF25F

SUBMINIATURE HIGH POWER RELAY

  
File No.:E134517

  
File No.:40026917

  
File No.:R50207576

  
File No.:CQC09002028692



Features

- Small and for microwave oven
- 20A switching capability
- 1.5HP 250VAC approved by UL standard
- 5kV impulse withstand voltage (between coil and contacts)
- PCB & QC layouts
- Flux proofed types available
- Environmental friendly product (RoHS compliant)
- Outline Dimensions: (22.8 x 12.3 x 24.4) mm

| CONTACT DATA           |                                       |
|------------------------|---------------------------------------|
| Contact arrangement    | 1A                                    |
| Contact resistance     | 100mΩ max.(at 1A 6VDC)                |
| Contact material       | AgSnO <sub>2</sub>                    |
| Contact rating         | Resistive: 20A 250VAC<br>1.5HP 250VAC |
| Max. switching voltage | 250VAC / 30VDC                        |
| Max. switching current | 20A                                   |
| Max. switching power   | 5000VA / 480W                         |
| Mechanical endurance   | 2 x 10 <sup>6</sup> ops               |
| Electrical endurance   | 1 x 10 <sup>5</sup> ops               |

| CHARACTERISTICS               |                         |                       |
|-------------------------------|-------------------------|-----------------------|
| Insulation resistance         |                         | 1000MΩ (at 500VDC)    |
| Dielectric strength           | Between coil & contacts | 5000VAC 1min          |
|                               | Between open contacts   | 1000VAC 1min          |
| Operate time (at nomi. volt.) |                         | 15ms max.             |
| Release time (at nomi. volt.) |                         | 5ms max.              |
| Humidity                      |                         | 5% to 85% RH          |
| Shock resistance              | Functional              | 98m/s <sup>2</sup>    |
|                               | Destructive             | 980m/s <sup>2</sup>   |
| Ambient temperature           |                         | -40°C to 85°C         |
| Vibration resistance          |                         | 10Hz to 55Hz 1.5mm DA |
| Termination                   |                         | PCB & QC              |
| Unit weight                   |                         | Approx. 16.5g         |
| Construction                  |                         | Flux proofed          |

Notes: 1) The data shown above are initial values.  
2) Please find coil temperature curve in the characteristic curves below.  
3) UL insulation system: Class A

| COIL       |               |
|------------|---------------|
| Coil power | Approx. 500mW |

| 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                   | 3.75                     | 0.25                      | 6.50                       | 50 x (1±10%)      |         |
| 6                   | 4.50                     | 0.30                      | 7.80                       | 72 x (1±10%)      |         |
| 9                   | 6.75                     | 0.45                      | 11.7                       | 162 x (1±10%)     |         |
| 12                  | 9.00                     | 0.60                      | 15.6                       | 288 x (1±10%)     |         |
| 18                  | 13.5                     | 0.90                      | 23.4                       | 648 x (1±10%)     |         |
| 24                  | 18.0                     | 1.20                      | 31.2                       | 1152 x (1±10%)    |         |

Notes: When requiring pick-up voltage <75% of nominal voltage, special order allowed.

| SAFETY APPROVAL RATINGS |              |
|-------------------------|--------------|
| UL/CUL                  | 20A 250VAC   |
|                         | 16A 30VDC    |
|                         | 1.5HP 250VAC |
| VDE                     | 20A 250VAC   |
|                         | 16A 30VDC    |
| TÜV                     | 20A 250VAC   |
|                         | 16A 30VDC    |

Notes: Only some typical ratings are listed above. If more details are required, please contact us.

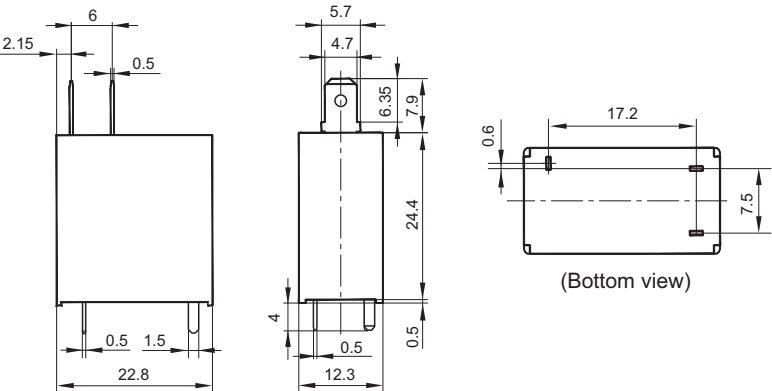
| ORDERING INFORMATION  |  |                        |           |           |                              |
|-----------------------|--|------------------------|-----------|-----------|------------------------------|
| Type                  |  | HF25F /                | 012       | -H        | 1 (XXX)                      |
| Coil voltage          |  | 5, 6, 9, 12, 18, 24VDC |           |           |                              |
| Contact arrangement   |  | H: 1 Form A            |           |           |                              |
| Version               |  | 1: 1 type              | 2: 2 type | 3: 3 type | 4: 4 type Nil: Standard type |
| Customer special code |  |                        |           |           |                              |

OUTLINE DIMENSIONS, WIRING DIAGRAM AND PC BOARD LAYOUT

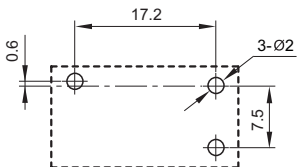
Unit: mm

Standard:

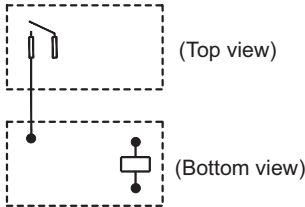
Outline Dimensions



PCB Layout (Bottom view)

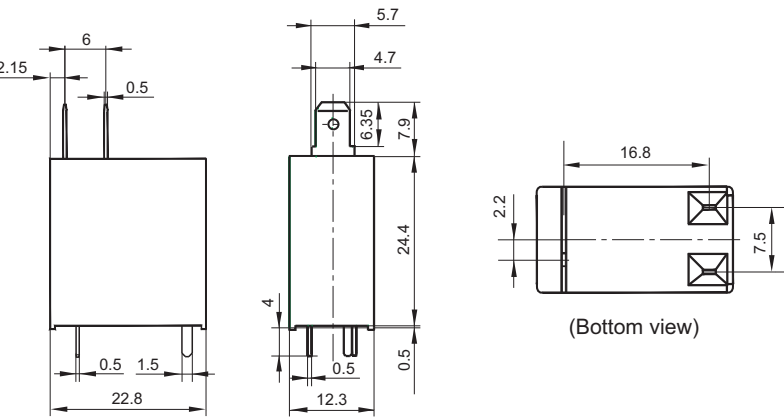


Wiring Diagram

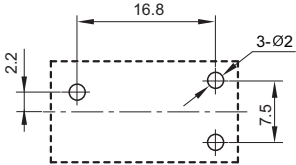


1 type:

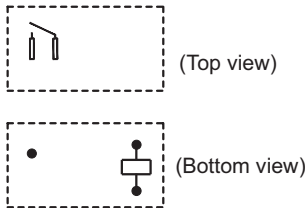
Outline Dimensions



PCB Layout (Bottom view)



Wiring Diagram

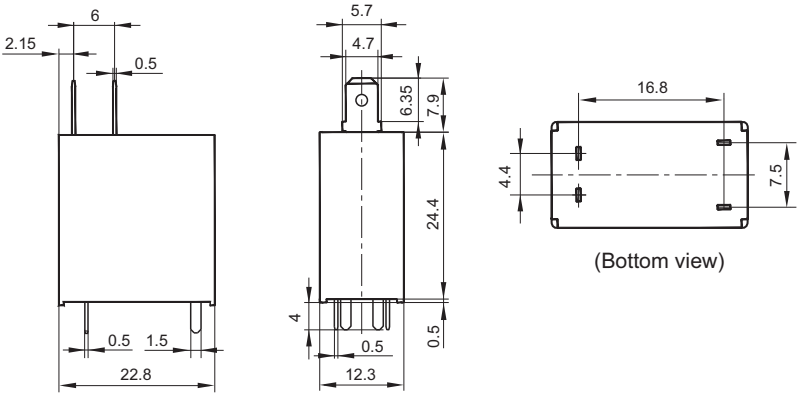


OUTLINE DIMENSIONS, WIRING DIAGRAM AND PC BOARD LAYOUT

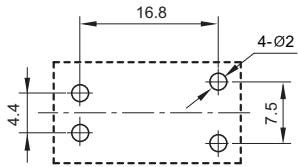
Unit: mm

2 type:

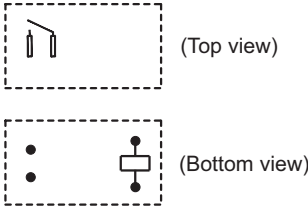
Outline Dimensions



PCB Layout (Bottom view)

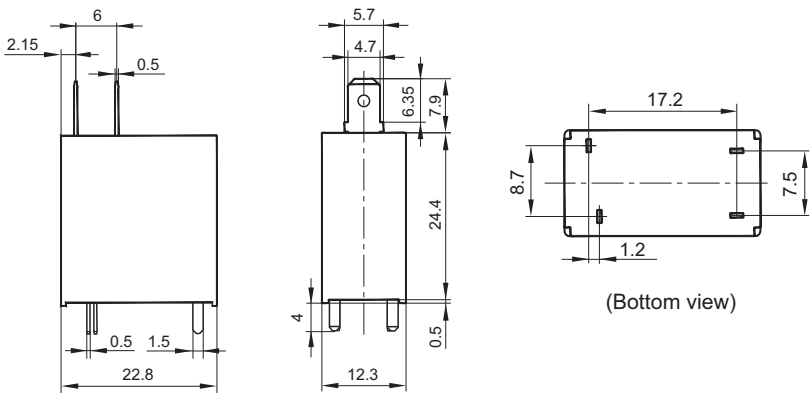


Wiring Diagram

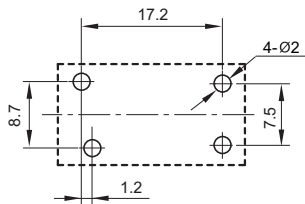


3 type:

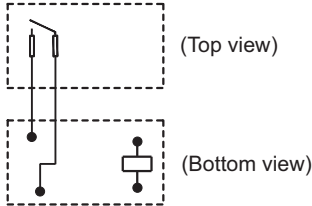
Outline Dimensions



PCB Layout (Bottom view)



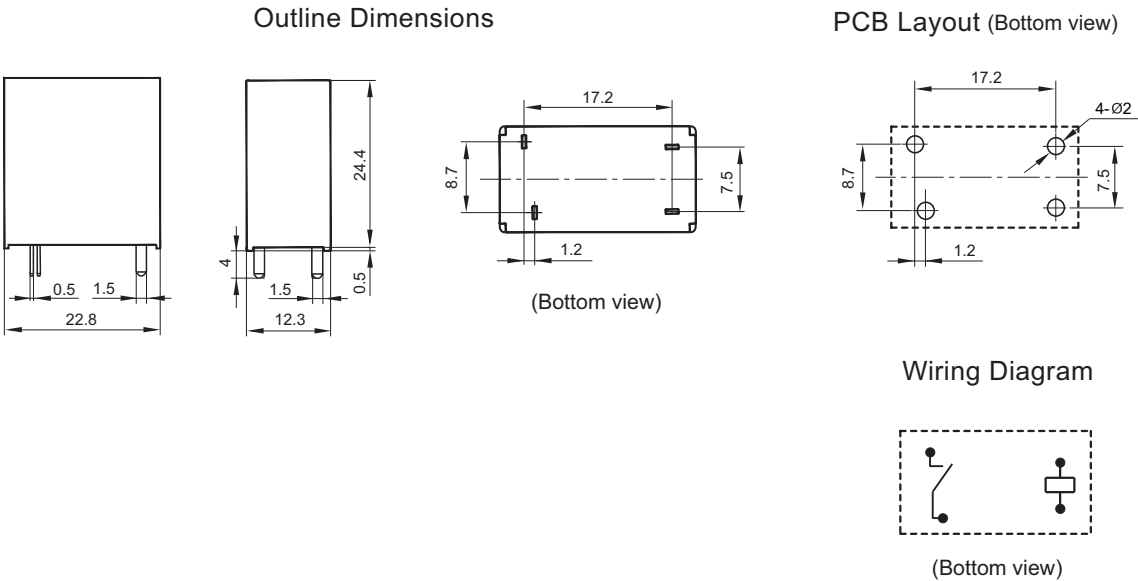
Wiring Diagram



OUTLINE DIMENSIONS, WIRING DIAGRAM AND PC BOARD LAYOUT

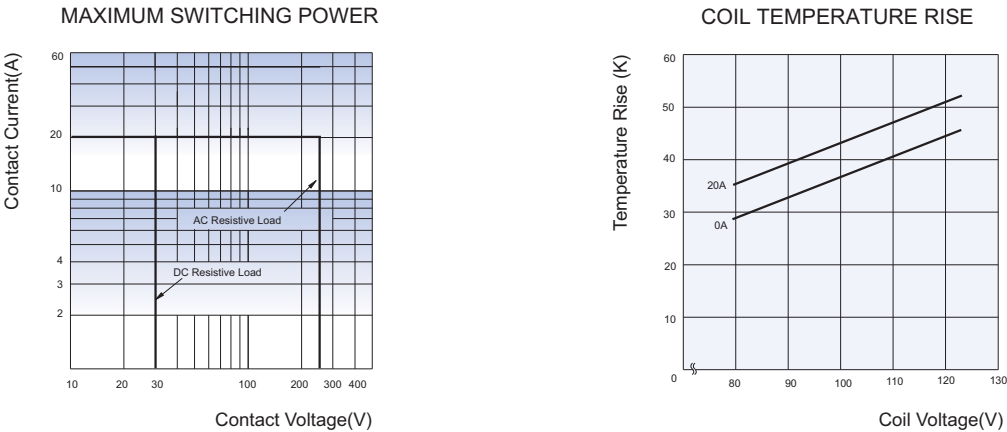
Unit: mm

4 type:



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  $\pm 0.1\text{mm}$ .

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.

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