

HF32F-G

SUBMINIATURE INTERMEDIATE POWER RELAY

  
File No.: E134517

  
File No.: 40012204

  
File No.: CQC08002027011



Features

- 10A switching capability
- 1 Form A configuration
- Subminiature, standard PCB layout
- Plastic sealed and flux proofed types available
- UL insulation system: Class F
- Environmental friendly product (RoHS compliant)
- Outline Dimensions: (18.4 x 10.2 x 15.3) mm

| CONTACT DATA               |                                  |
|----------------------------|----------------------------------|
| Contact arrangement        | 1A                               |
| Contact resistance         | 100mΩ max.(at 1A 6VDC)           |
| Contact material           | AgSnO <sub>2</sub> , AgNi, AgCdO |
| Contact rating (Res. load) | 10A 250VAC<br>10A 30VDC          |
| Max. switching voltage     | 250VAC / 30VDC                   |
| Max. switching current     | 10A                              |
| Max. switching power       | 2500VA / 300W                    |
| Mechanical endurance       | 1 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 | 2500VAC 1min                    |
|                               | Between open contacts   | 1000VAC 1min                    |
| Operate time (at nomi. volt.) |                         | 8ms max.                        |
| Release time (at nomi. volt.) |                         | 5ms max.                        |
| Humidity                      |                         | 5% to 85% RH                    |
| Ambient temperature           |                         | -40°C to 70°C                   |
| Shock resistance              | Functional              | 98m/s <sup>2</sup>              |
|                               | Destructive             | 980m/s <sup>2</sup>             |
| Vibration resistance          |                         | 10Hz to 55Hz 1.5mm DA           |
| Termination                   |                         | PCB                             |
| Unit weight                   |                         | Approx. 6g                      |
| Construction                  |                         | Plastic sealed,<br>Flux proofed |

Notes:1) The data shown above are initial values.  
2) Please find coil temperature curve in the characteristic curves below.  
3) In order to secure better electrical endurance, we recommend not to use this relay under high temperature.

| COIL       |               |
|------------|---------------|
| Coil power | Approx. 450mW |

| 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 |         |
| 3                   | 2.25                     | 0.15                      | 3.9                        | 20 x (1±10%)      |         |
| 5                   | 3.75                     | 0.25                      | 6.5                        | 55 x (1±10%)      |         |
| 6                   | 4.50                     | 0.30                      | 7.8                        | 80 x (1±10%)      |         |
| 9                   | 6.75                     | 0.45                      | 11.7                       | 180 x (1±10%)     |         |
| 12                  | 9.00                     | 0.60                      | 15.6                       | 320 x (1±10%)     |         |
| 18                  | 13.5                     | 0.90                      | 23.4                       | 720 x (1±10%)     |         |
| 24                  | 18.0                     | 1.20                      | 31.2                       | 1280 x (1±10%)    |         |
| 48                  | 36.0                     | 2.40                      | 62.4                       | 5120 x (1±10%)    |         |

| SAFETY APPROVAL RATINGS |                                     |
|-------------------------|-------------------------------------|
| UL/CUL                  | 10A 277VAC / 250VAC / 30VDC at 85°C |
|                         | 12A 125VAC at 85°C                  |
|                         | TV-5 120VAC at 40°C                 |
| VDE                     | 10A 250VAC at 85°C                  |
|                         | 4A 400VAC at 85°C                   |

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

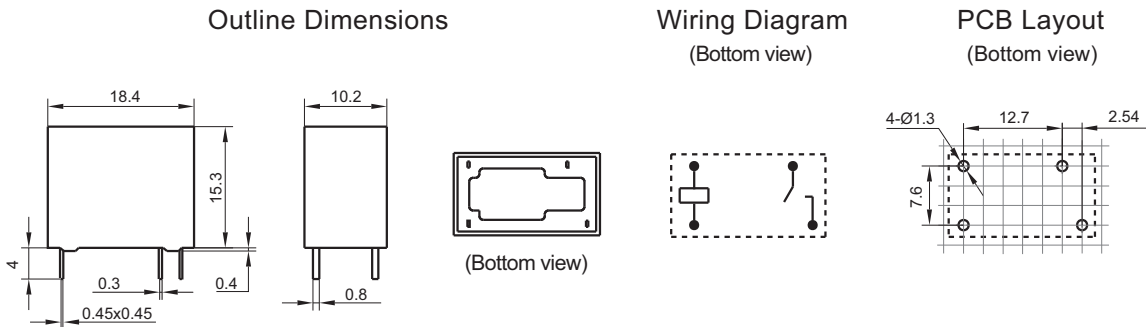
ORDERING INFORMATION

|                            |                                                               |  |     |    |   |   |       |
|----------------------------|---------------------------------------------------------------|--|-----|----|---|---|-------|
|                            | HF32F-G /                                                     |  | 012 | -H | S | 3 | (XXX) |
| Type                       |                                                               |  |     |    |   |   |       |
| Coil voltage               | 3, 5, 6, 9, 12, 18, 24, 48VDC                                 |  |     |    |   |   |       |
| Contact arrangement        | H: 1 Form A                                                   |  |     |    |   |   |       |
| Construction <sup>1)</sup> | S: Plastic sealed Nil: Flux proofed                           |  |     |    |   |   |       |
| Contact material           | T: AgSnO <sub>2</sub> 3: AgNi Nil: AgCdO                      |  |     |    |   |   |       |
| Customer special code      | e.g. (356) stands for product in accordance to IEC 61249-2-21 |  |     |    |   |   |       |

Notes: 1) Under the ambience with dangerous gas like H<sub>2</sub>S, SO<sub>2</sub> or NO<sub>2</sub>, plastic sealed type is recommended; please test the relay in real applications. If the ambience allows, flux proofed is preferentially recommended.  
If water cleaning is required after the relay is assembled on PCB, please contact us for suggestion about suitable parts.

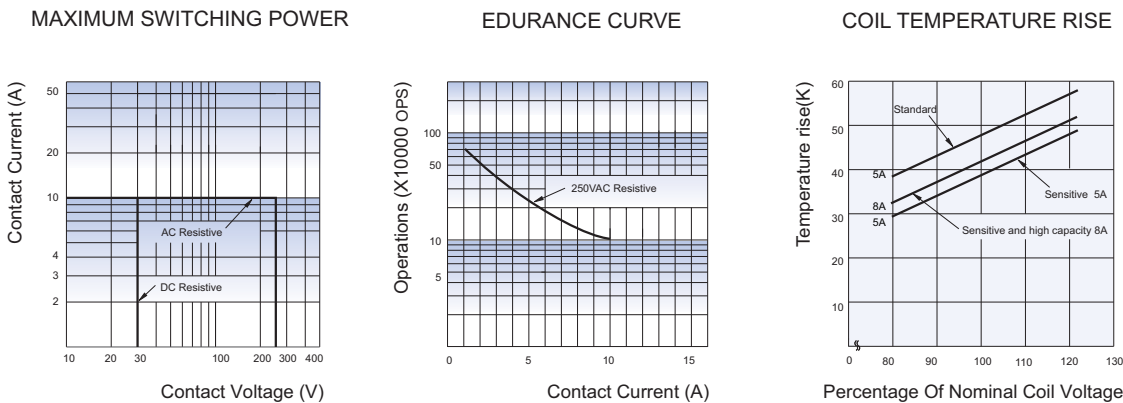
OUTLINE DIMENSIONS, WIRING DIAGRAM AND PC BOARD LAYOUT

Unit: mm



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

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.