

HF9113

TO-5 HERMETICALLY SEALED RELAY WITH COIL TRANSIENT SUPPRESSION



Features

- Failure rate can be Level M
- Internal diode for coil transient suppression protection
- High ambient applicability
- All metal welded construction
- Hermetically welded and marked by laser

Conform to GJB65B-99 (Equivalent to MIL-R-39016)

AMBIENT ADAPTABILITY

| Ambient Grade | | I | II | III |
|-------------------------|--------------|--|---------------------|---------------------|
| Ambient Temperature | | -55°C to 85°C | -65°C to 125°C | -65°C to 125°C |
| Humidity | | 98%, 40°C | | |
| Low Air Pressure | | 4.4KPa | | |
| Vibration Resistance | Frequency | 10Hz to 2000Hz | 10Hz to 2000Hz | 10Hz to 3000Hz |
| | Acceleration | 196m/s ² | 196m/s ² | 294m/s ² |
| Shock Resistance | | 735m/s ² | | |
| Random Vibration | | 40(m/s ²) ² /Hz | | |
| Acceleration | | 490m/s ² | | |
| Implementation Standard | | GJB65B-99 (MIL-R-39016) | | |

CONTACT DATA

| Ambient Grade | | I | II | III |
|---------------------------|------------|--------------------------------------|---|-------|
| Arrangement | | 2 Form C | | |
| Contact Material | | Gold/Platinum/Palladium/Silver alloy | Gold/Platinum/Palladium/Silver alloy(Gold plated) | |
| Contact Resistance (max.) | Initial | 125mΩ | 100mΩ | 100mΩ |
| | After Life | 250mΩ | 200mΩ | 200mΩ |
| Failure Rate | | Level L and M available | | |

Contact Ratings

| Ambient Grade | Contact Load | Type | Electrical Life (min.) |
|---------------|--------------------|-----------|-------------------------|
| I | 1.0A 28Vd.c. | Resistive | 1 x 10 ⁵ OPS |
| | 1.0A 28Vd.c. | Resistive | 1 x 10 ⁵ OPS |
| II | 0.1A 115Va.c. | Resistive | 1 x 10 ⁵ OPS |
| | 0.2A 28Vd.c. 320mH | Inductive | 1 x 10 ⁵ OPS |
| | 0.1A 28Vd.c. | Lamp | 1 x 10 ⁵ OPS |
| III | 1.0A 28Vd.c. | Resistive | 1 x 10 ⁵ OPS |
| | 0.1A 115Va.c. | Resistive | 1 x 10 ⁵ OPS |
| | 0.2A 28Vd.c. 320mH | Inductive | 1 x 10 ⁵ OPS |
| | 0.1A 28Vd.c. | Lamp | 1 x 10 ⁵ OPS |
| | 50μA 50mVd.c. | Low Level | 1 x 10 ⁵ OPS |



HONGFA RELAY

ISO9001、ISO/TS16949、ISO14001、OHSAS18001 CERTIFIED

2007 Rev. 1.00

SPECIFICATION

| | | | | |
|--|--------------------------|--|--|------------|
| Ambient Grade | I | II | III | |
| Insulation Resistance (min.) | 1000MΩ (at 500Vd.c.) | 10000MΩ (at 500Vd.c.) | 10000MΩ (at 500Vd.c.) | |
| Dielectric Strength min. (Normal condition) | Between open contacts | 500Vr.m.s. | 500Vr.m.s. | 500Vr.m.s. |
| | Between contacts & coil | 500Vr.m.s. | 500Vr.m.s. | 500Vr.m.s. |
| | Between contacts & cover | 500Vr.m.s. | 500Vr.m.s. | 500Vr.m.s. |
| | Between contacts sets | 500Vr.m.s. | 500Vr.m.s. | 500Vr.m.s. |
| | Between coil & cover | 500Vr.m.s. | 500Vr.m.s. | 500Vr.m.s. |
| Dielectric Strength min. (Low air pressure condition) | 125Vr.m.s. | 125Vr.m.s. | 125Vr.m.s. | |
| Leakage Rate | 1 Pa·cm ³ /s | 1 x 10 ⁻² Pa·cm ³ /s | 1 x 10 ⁻³ Pa·cm ³ /s | |
| Operate Time (max.) | 2ms | | | |
| Release Time (max.) | 4ms | | | |
| Mounting Style | In-line package | | | |
| Terminals | PCB | | | |
| Work Position | Any position | | | |
| Weight | 2.55g | | | |

COIL DATA

| | |
|-------------------|--------------|
| Normal Coil Power | Approx. 0.5W |
|-------------------|--------------|

Coil Version

| Coi Voltage | | 25°C | | | | -65°C to 125°C | | |
|-------------|-----|---------------------|------------------|----------------------|---------------------------|---------------------|------------------|----------------------|
| Nominal | Max | Pick-up Voltage max | Hold Voltage max | Drop-out Voltage min | Coil Resistance (1±10%) Ω | Pick-up Voltage max | Hold Voltage max | Drop-out Voltage min |
| 005 | 5.8 | 2.7 | 1.4 | 0.22 | 50 | 3.5 | 2.3 | 0.15 |
| 006 | 8 | 3.5 | 2.0 | 0.28 | 98 | 4.5 | 3.2 | 0.18 |
| 009 | 12 | 5.3 | 3.0 | 0.54 | 220 | 6.8 | 4.9 | 0.35 |
| 012 | 16 | 7.0 | 4.0 | 0.63 | 390 | 9.0 | 6.5 | 0.40 |
| 018 | 24 | 10.5 | 6.0 | 0.91 | 880 | 13.5 | 10.0 | 0.58 |
| 027 | 32 | 14.2 | 8.0 | 1.37 | 1560 | 18.0 | 13.0 | 0.89 |

Notes: We can offer many kinds of of coil voltage under the requirement of users.

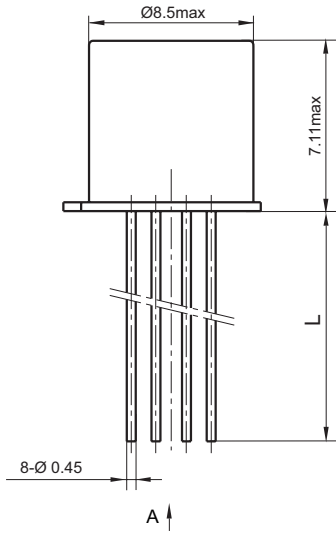
ORDERING INFORMATION

| | | | | | |
|------------------|--|---------------|----------------|----|---|
| Type | HF9113 | -012 | L | 01 | I |
| Coil Voltage | 5, 6, 9, 12, 18, 27Vd.c. | | | | |
| Failure Rate | L: Failure rate level L (level III products available) M: Failure rate level M (level III products available) Nil: Without failure rate requirement(level I , II products available) | | | | |
| Terminals Length | 01: 5mm | 02: 12.5mm | 03: 38mm | | |
| Ambient Grade | I : level I | II : level II | Nil: level III | | |

OUTLINE DIMENSIONS AND WIRING DIAGRAM

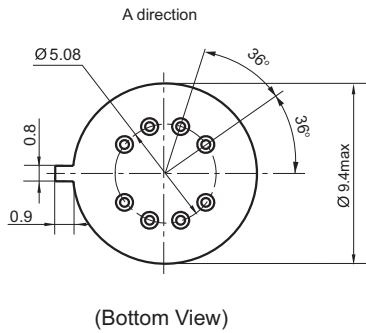
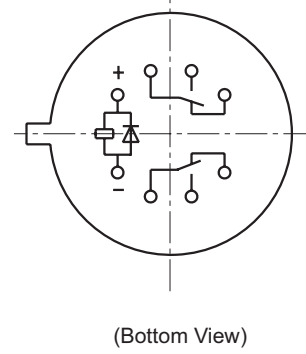
Unit: mm

Outline Dimensions



Three types of terminal (L) :
 L1=5.0mm,
 L2=12.5mm,
 L3=38.0mm.
 You can choose the type you need.

Wiring Diagram



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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