

# 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 <sup>2</sup>	196m/s <sup>2</sup>	294m/s <sup>2</sup>
Shock Resistance		735m/s <sup>2</sup>		
Random Vibration		40(m/s <sup>2</sup> ) <sup>2</sup> /Hz		
Acceleration		490m/s <sup>2</sup>		
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 <sup>5</sup> OPS
	1.0A 28Vd.c.	Resistive	1 x 10 <sup>5</sup> OPS
II	0.1A 115Va.c.	Resistive	1 x 10 <sup>5</sup> OPS
	0.2A 28Vd.c. 320mH	Inductive	1 x 10 <sup>5</sup> OPS
	0.1A 28Vd.c.	Lamp	1 x 10 <sup>5</sup> OPS
III	1.0A 28Vd.c.	Resistive	1 x 10 <sup>5</sup> OPS
	0.1A 115Va.c.	Resistive	1 x 10 <sup>5</sup> OPS
	0.2A 28Vd.c. 320mH	Inductive	1 x 10 <sup>5</sup> OPS
	0.1A 28Vd.c.	Lamp	1 x 10 <sup>5</sup> OPS
	50μA 50mVd.c.	Low Level	1 x 10 <sup>5</sup> 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 <sup>3</sup> /s	1 x 10 <sup>-2</sup> Pa·cm <sup>3</sup> /s	1 x 10 <sup>-3</sup> Pa·cm <sup>3</sup> /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

Norminal Coil Power	Approx. 0.5W
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Coi Voltage		Coil Version				Vd.c.		
Nominal	Max	25°C			-65°C to 125°C			
		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.

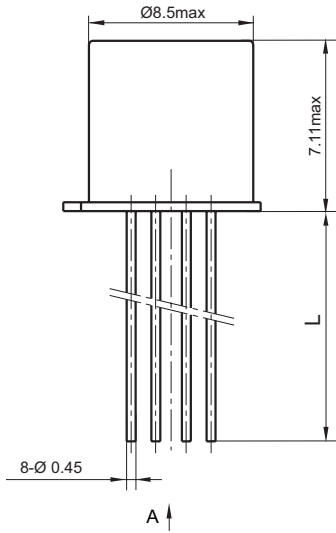
## ORDERING INFORMATION

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

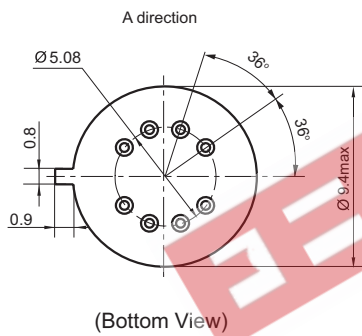
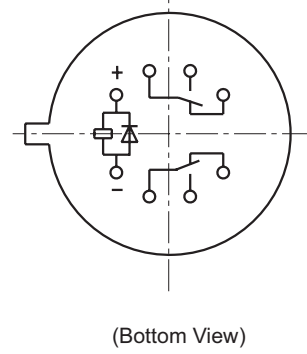
Unit: mm

## 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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