

HF9113

TO-5 DPDT HERMETICALLY SEALED RELAY
WITH COIL TRANSIENT SUPPRESSION



Features

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

AMBIENT ADAPTABILITY

Ambient grade		I	II	III
Ambient temperature		-55 °C to 85 °C	-55 °C to 85 °C	-65 °C to 125 °C
Humidity		98 %, 40 °C		
Low air pressure		58.53 kPa	4.39 kPa	4.39 kPa
Sine vibration	Frequency	10 Hz to 1000 Hz	10 Hz to 2000 Hz	10 Hz to 3000 Hz
	Acceleration	147 m/s ²	196 m/s ²	294 m/s ²
Shock resistance		490 m/s ²	735 m/s ²	735 m/s ²
Random vibration			20 (m/s ²)/Hz	40 (m/s ²)/Hz
Steady-state acceleration		490 m/s ²		

CONTACT DATA

Ambient grade		I	II	III
Arrangement		2 C		
Contact resistance	Initial max.	125 mΩ	100 mΩ	100 mΩ
	After life max.	250 mΩ	200 mΩ	200 mΩ
Failure level		Level L、M		

Contact ratings

Ambient grade	Contact load	Type	Electrical life min.
I	1 A 28 Vd.c.	Resistive	1 x 10 ⁵ OPS
II	1 A 28 Vd.c.	Resistive	1 x 10 ⁵ OPS
	0.2 A 28 Vd.c. 320 mH	Inductive	1 x 10 ⁵ OPS
	0.1 A 28 Vd.c.	Lamp load	1 x 10 ⁵ OPS
III	1 A 28 Vd.c.	Resistive	1 x 10 ⁵ OPS
	0.1 A 115 Va.c.	Resistive	1 x 10 ⁵ OPS
	0.2 A 28 Vd.c. 320 mH	Inductive	1 x 10 ⁵ OPS
	0.1 A 28 Vd.c.	Lamp load	1 x 10 ⁵ OPS
	50 μA 50 mVd.c.	Low level	1 x 10 ⁵ OPS



SPECIFICATION				
Ambient grade		I	II	III
Insulation resistance min.		1000 MΩ (@ 500 Vd.c.)	10000 MΩ (@ 500 Vd.c.)	10000 MΩ (@ 500 Vd.c.)
Dielectric strength min. (Normal condition)	Between open contacts	500 Vr.m.s.	500 Vr.m.s.	500 Vr.m.s.
	Between contact & coil	500 Vr.m.s.	500 Vr.m.s.	500 Vr.m.s.
	Between contact & cover	500 Vr.m.s.	500 Vr.m.s.	500 Vr.m.s.
	Between contact group	500 Vr.m.s.	500 Vr.m.s.	500 Vr.m.s.
	Between coil & cover	500 Vr.m.s.	500 Vr.m.s.	500 Vr.m.s.
Dielectric strength min. (Low air pressure condition)		125 Vr.m.s.	125 Vr.m.s.	125 Vr.m.s.
Leakage rate max.		1 Pa•cm ³ /s	1 x 10 ⁻¹ Pa•cm ³ /s	1 x 10 ⁻³ Pa•cm ³ /s
Operate time max.		2 ms		
Release time max.		4 ms		
Mounting style		See the mounting dimension		
Terminals		See the terminal styles		
Work position		Random		
Weight max.		2.55 g		

COIL DATA	
Normal coil power	Approx. 0.5W

Coil Version										Vd.c.
Order Number	Coil voltage		at 25 °C				-65°C to 125°C			
	Nominal voltage	Value max.	Coil resistance (1±10%) Ω	Pick-up voltage max.	Hold voltage max.	Drop-out voltage min.	Pick-up voltage max.	Hold voltage max.	Drop-out voltage min.	
005	5	5.8	50	2.7	1.4	0.22	3.5	2.3	0.15	
006	6	8	98	3.5	2.0	0.28	4.5	3.2	0.18	
009	9	12	220	5.3	3.0	0.54	6.8	4.9	0.35	
012	12	16	390	7.0	4.0	0.63	9.0	6.5	0.40	
018	18	24	880	10.5	6.0	0.91	13.5	10.0	0.58	
027	27	32	1560	14.2	8.0	1.00	18.0	13.0	0.89	

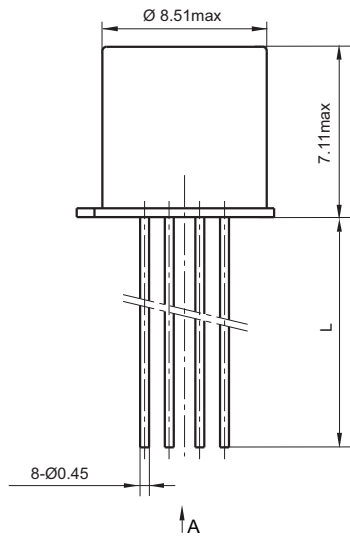
Notes: We can offer many kinds of coil voltage under the requirement of users.

ORDERING INFORMATION					
Type	HF9113		-012	M	-01
					- I
	Order Number		005、006、009、012、018、027		
	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 Style		01 、 02 、 03 (See " Terminal styles " below)		
Ambient Grade		I : level I	II : level II	Nil: level III (with failure rate requirement)	

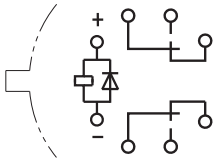
OUTLINE DIMENSIONS AND WIRING DIAGRAM

Unit:mm

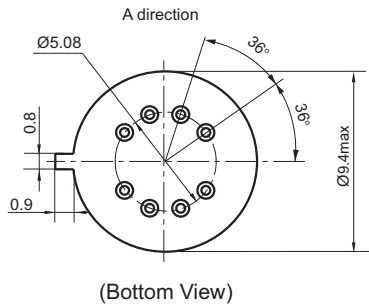
Outline Dimension



L	Terminal Styles Code
5.0±0.5	01
12.5min	02
38min	03



Wiring Diagram
(Bottom View)



Disclaimer
This datasheet is for the customers' reference. All the specifications are subject to change without notice.
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