

HFD16

SUBMINIATURE SIGNAL RELAY



File No.: E133481



File No.: R50075326



Features

- 5A switching capability
- UL insulation system: Class F available
- Plastic sealed and flux proofed types available
- Standard PCB layout
- Product in accordance to IEC 60335-1 available
- Environmental friendly product (RoHS compliant)
- Outline Dimensions: 15.7mm x 10.6mm x 11.8mm

CONTACT DATA

Contact arrangement	1C
Contact resistance ¹⁾	100mΩ max. (AgNi gold-plated specifications: 0.1A 30mVDC, AgNi non gold-plated specifications and AgSnO ₂ :1A 30mVDC)
Contact material	AgNi, AgSnO ₂
Contact rating (Res. load)	3A 30VDC 1A 125VAC
Max. switching voltage	250VAC / 220VDC
Max. switching current	8A(30VDC)
Max. switching power	250VA / 90W
Min. applicable load	5V 1mA(Suitable for AgNi gold-plated specifications)
Mechanical endurance	1 x 10 ⁷ OPS
Electrical endurance	1 × 10 ⁵ OPS(NO:AgNi, 85°C, 1s on 9s off, 3A30VDC) 1 × 10 ⁴ OPS(NO:AgNi, 85°C, 1s on 9s off, 5A125VAC)

Notes: 1) The data shown above are initial values.
2)Min. applicable load is reference value. Please perform the confirmation test with the actual load before production since reference value may change according to switching frequencies, environmental conditions and expected contact resistance and reliability.

CHARACTERISTICS

Insulation resistance	1000MΩ (at 500VDC)	
Dielectric strength	between coil & contacts	1100VAC 1min
	between open contacts	750VAC 1min
Operate time (at rated voltage.)	5ms max.	
Release time (at rated voltage.)	5ms max.	
Shock resistance	Functional	98m/s ²
	Destructive	980m/s ²
Vibration resistance	Functional	10Hz to 55Hz 1.5mm DA
	Destructive	10Hz to 55Hz 3.3mm DA
Surge withstand voltage between open contacts(10/160 μ s)	1000V(FCC part 68)	
between coil & contacts(2/10 μ s)	1500V(Telecordia)	
Humidity	5% to 85% RH	
Ambient temperature	-40°C to 85°C	
Termination	PCB (DIP)	
Unit weight	Approx. 4g	
Construction	Plastic sealed, Flux proofed	

Notes: 1) The data shown above are initial values.
2) UL insulation system: Class F.

COIL

Coil power	H type: 200mW; S type: 360mW; Nil: 450mW;
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COIL DATA

at 23°C

Nominal Voltage VDC	Pick-up Voltage VDC ¹⁾ max.	Drop-out Voltage VDC ¹⁾ min.	Max. Voltage ²⁾ VDC	Coil Resistance x (±10%) Ω		
				H	S	Nil
2.4	≤1.80	≥0.24	3.12	28.8	19.2	12.8
3	≤2.25	≥0.3	3.90	45.0	25.0	20
4.5	≤3.38	≥0.45	5.85	101.3	67.5	45
5	≤3.75	≥0.5	6.50	120	70.0	56
6	≤4.5	≥0.6	6.63	180	100	80
9	≤6.75	≥0.9	11.7	400	220	180
12	≤9.00	≥1.2	15.6	700	400	320
18	≤13.5	≥1.8	23.4	1620	1080	720
24	≤18.0	≥2.4	31.2	2800	1600	1280

Notes: 1) The data shown above are initial values.
2)Maximum voltage refers to the maximum voltage which relay coil could endure in a short period of time.

SAFETY APPROVAL RATINGS

UL/CUL	AgNi	5A 125VAC 1A 125VAC, 85°C 3A 30VDC, 85°C
	AgSnO ₂	1A 125VAC, 85°C 3A 30VDC, 85°C TV-1 125VAC
TÜV	AgNi	1A 250VAC 1A 125VAC, 85°C 3A 30VAC, 85°C
	AgSnO ₂	1A 250VAC, 85°C 3A 30VAC, 85°C 1(1) 250VAC

Notes: 1) All values unspecified are at room temperature.
2) Only typical loads are listed above. Other load specifications can be available upon request.



HONGFA RELAY

ISO9001, ISO/TS16949, ISO14001, OHSAS18001, IECQ QC 080000 CERTIFIED

2018 Rev. 1.01

ORDERING INFORMATION

Type	HFD16/		24	-Z	F	H	-3	N (XXX)
Coil voltage	2.4, 3, 4.5, 5, 6, 9, 12, 18, 24 VDC							
Contact arrangement	Z:1 Form C							
Construction	F: Flux proofed		Nil: Plastic sealed					
Coil power	H: High sensitive (200mW)		S: Sensitive (360mW)		Nil: Standard(450mW)			
Contact material	3: AgNi		T: AgSnO ₂					
Contact plating	N: No gold plated ³⁾		Nil:Gold plated					
Special code ¹⁾	XXX: Customer special requirement		Nil: Standard					

Notes: 1) The customer special requirement express as special code after evaluating by Hongfa.

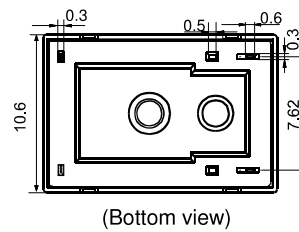
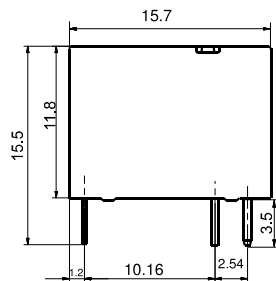
2) The standard size of this product tube package is 409mm.

3) Only suitable for AgNi contact specifications .

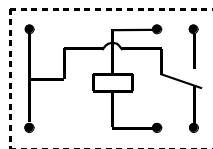
OUTLINE DIMENSIONS, WIRING DIAGRAM AND PC BOARD LAYOUT

Unit: mm

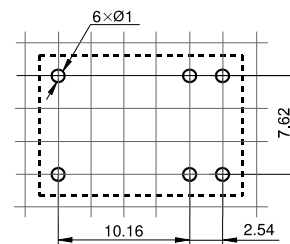
Outline Dimensions



Wiring Diagram
(Bottom view)



PCB Layout
(Bottom view)



Remark: 1) In case of no tolerance shown in outline dimension: outline dimension ≤ 1 mm, tolerance should be ± 0.2 mm; outline dimension > 1 mm and ≤ 5 mm, tolerance should be ± 0.3 mm; outline dimension > 5 mm, tolerance should be ± 0.4 mm.

2) The tolerance without indicating for PCB layout is always ± 0.1 mm.

3) The width of the gridding is 2.54mm.

