HONGFA RELAY

SUBMINIATURE DIP RELAYS

2 Form C 150mW

HFD2

- 2 Form C contact
- High sensitivity 150 mW
- Fits standard 16 pin IC socket
- High switching capacity 60W,125VA
- Epoxy sealed for automatic wave soldering and cleaning
- Single side stable and latching type is available
- UL file E133481

■CONTACT DATA

Arrangement		2 Form C
Initial Contact Resistance Max. (at 10mA 6VDC)		50mΩ
Contact Material		Silver alloy, gold clad
Contact Rating (Res. Load)		2A,30VDC 1A,125VAC
Max. switching voltage		220VDC,250VAC
Max. switching current		5 A
Max. switching power		60W,125VA
UL/CUR rating		2A at 30 VDC Resistive 1A at 120VAC Resistive
Expected Life min. operations	Mechanical	1×10^8 ops
	Electrical	1×10^5 ops 2A 30VDC
		5×10^5 ops 1A 30VDC

■COIL

Nominal coil power	single side stable latching 2 Coil	150mW to 200mW
	latching 1 Coil	75mW to 100mW

■ SPECIFICATION

Initial Insulation Resistance		1,000MΩ 500VDC
Dielectric Strength Between coil and Contacts		1,500VAC, 1min(1coil) 1,000VAC,1min(2coil)
Between open contacts		1,000VAC,1min
Surge Voltage between Contacts and coil		1500VAC
Operate time (at nomi. Vot.)		4ms
Release time (at nomi. Vot.)		3ms
Temperature rise (at nominal voltage)		Max. 65℃
Shock Resistance	Functional	$490m/s^2$
	Destructive	$980m/s^2$
Vibration Resistance		$196m/s^2$
Humidity		98% +40℃
Ambient temperature		-40 to +85℃
Termination		PCB
Unit weight		Approx. 5g
Construction		Sealed

■ ORDER DESIGNATION

HFD2 / 012 — S — L2

Coil Voltage	Sensitivity	Sort
3、5、6、9、12 15、24、48VDC	S: Sensitive	Nil: Single side stable
	M: Standard	L1: Latching 1 coil
		L2: Latching 2 coil

■COIL TABLE

■Single side stable Standard (200mW) 20℃

Order Number	Coil Voltage VDC	Pick-up Voltage VDC (max)	Drop-out Voltage VDC (min)	Coil Resist. Ω 10%	Max. allow Voltage VDC
003-M	3	2.3	0.3	45	6
005-M	5	3.8	0.5	125	10
006-M	6	4.5	0.6	180	12
009-M	9	6.8	0.9	405	18
012-M	12	9.0	1.2	720	24
015-M	15	11.3	1.5	1125	30
024-M	24	18.0	2.4	2880	48
048-M	48	36.0	4.8	11520	96

■Single side stable Sensitive (150mW) 20℃

Order Number	Coil Voltage VDC	Pick-up Voltage VDC (max)	Drop-out Voltage VDC (min)	Coil resist. Ω 10%	Max. allow Voltage VDC
003-S	3	2.4	0.3	60	7.0
005-S	5	4.0	0.5	167	11.5
006-S	6	4.8	0.6	240	13.8
009-S	9	7.2	0.9	540	20.8
012-S	12	9.6	1.2	960	27.7
015-S	15	12.0	1.5	1500	34.6
024-S	24	19.2	2.4	3840	55.4

■Latching（2 coil）standard (200mW) 20℃

Order Number	Coil Voltage VDC	Set、Reset Voltage VDC (max)	Coil Resist. Ω 10%	Max. allow Voltage VDC
003-M-L2	3	2.25	45	6
005-M-L2	5	3.75	125	10
006-M-L2	6	4.5	180	12
009-M-L2	9	6.75	375	18
012-M-L2	12	9.0	720	24
015-M-L2	15	11.25	1125	30
024-M-L2	24	18.0	2040	48

■ Latching（2 coil）sensitive (150mW) 20℃

Order Number	Coil Voltage VDC	Set、Reset Voltage VDC (max)	Coil Resist. Ω 10%	Max. allow Voltage VDC
005-S-L2	5	4.0	167	11.5
006-S-L2	6	4.8	240	13.8
009-S-L2	9	7.2	540	20.8
012-S-L2	12	9.6	960	27.7
015-S-L2	15	12.0	1500	34.6
024-S-L2	24	19.2	3840	55.4

■Latching（1 coil）standard (100mW) 20℃

Order number	Coil Voltage VDC	Set、Reset Voltage VDC (max)	Coil resist. Ω 10%	Max. allow Voltage VDC
003-M-L1	3	2.25	90	8.4
005-M-L1	5	3.75	250	14
006-M-L1	6	4.5	360	17
009-M-L1	9	6.75	810	25
012-M-L1	12	9.0	1440	34
015-M-L1	15	11.25	2220	42
024-M-L1	24	18.0	4000	56

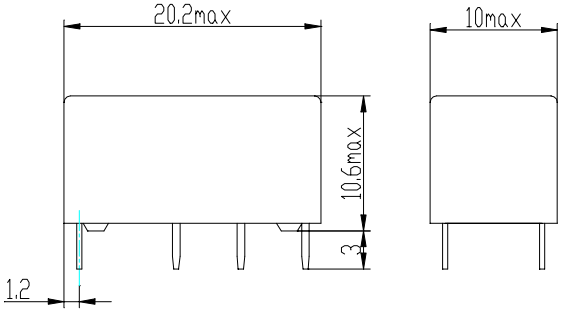
■ Latching（1 coil）sensitive (75mW) 20℃

Order number	Coil Voltage VDC	Set、Reset Voltage VDC (max)	Coil resist. Ω 10%	Max. allow Voltage VDC
005-S-L1	5	4.0	330	16
006-S-L1	6	4.8	480	19
009-S-L1	9	7.2	1080	29
012-S-L1	12	9.6	1920	39
015-S-L1	15	12.0	3000	43
024-S-L1	24	19.2	7680	78

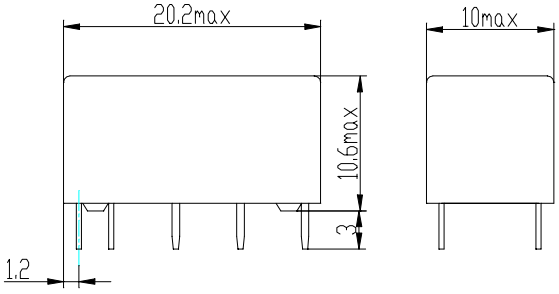
■OUTLINE DIMENSIONS, WIRING DIAGRAM AND PC BOARD LAYOUT

Outline Dimensions

Single side stable or Latching (1 coil)

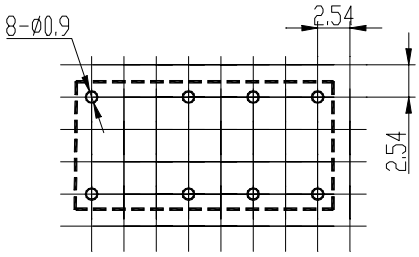


Latching (2 coil)



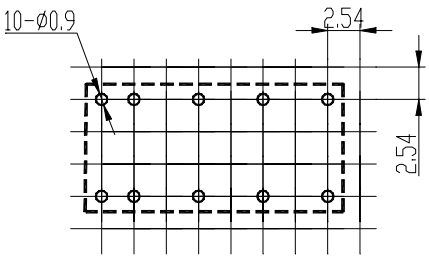
PC Board layout

Single side stable or Latching (1 coil)



matching 16 pin IC socket

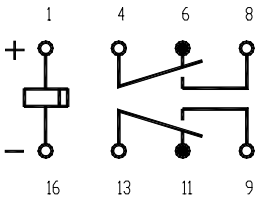
Latching (2 coil)



matching 16 pin IC socket

Wiring diagram (bottom view)

Single side stable or Latching (1 coil)



For latching, diagram shows the "reset"position
Energize terminals 1 and 16 to"set"
Reverse energize terminals 1 and 16 to"reset"

Latching (2 coil)

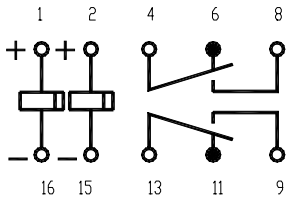


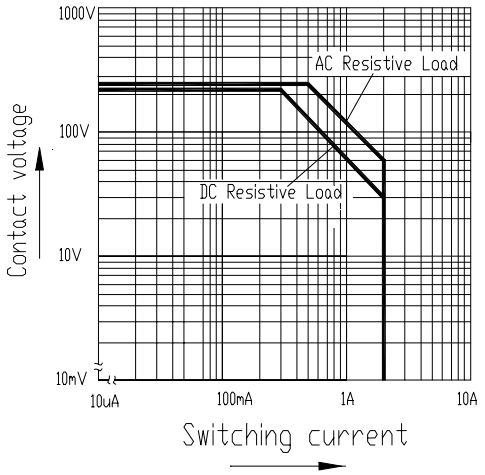
Diagram shows the "reset"position
Energize terminals 1 and 16 to"set"
Energize terminals 2 and 15 to"reset"

■TYPICAL CONTACT LIFE EXPECTANCY

voltage	Power	Number of operations	
		Resistive Load	Inductive Load For AC cos ϕ =0.7
50mVDC	50uW	5×10^7	5×10^7
30VDC	20W	3×10^6	1×10^6
30VDC	30W	5×10^5	3×10^5
30VDC	60W	1×10^5	1.5×10^4
60VDC	20W	3×10^6	--
60VDC	30W	5×10^5	--
60VDC	60W	1×10^5	--
30VAC	40VA	3×10^6	1×10^6
30VAC	80VA	1×10^6	3×10^5
30VAC	120VA	1×10^5	1.5×10^4
60VAC	40VA	3×10^6	1×10^6
60VAC	80VA	1×10^6	3×10^5
60VAC	120VA	1×10^5	1.5×10^4
125VAC	40VA	3×10^6	1×10^6
125VAC	80VA	1×10^6	3×10^5
125VAC	125VA	1×10^5	1.5×10^4

■USEFUL CURVES

Maximum switching power



Coil Temperature Rise