

# HFD27 (JRC-27F)

# SUBMINIATURE DIP RELAY



File No.:E133481



File No.:R50075362



File No.:CQC02001001938



## Features

- 2 Form C configuration
- High switching capacity:125VA/60W
- Matching 16 pin IC socket
- Bifurcated contacts
- Epoxy sealed for automatic-wave soldering and cleaning
- Environmental friendly product (RoHS compliant)
- Outline Dimensions: (20.2 x 10.0 x 11.5) mm

## CONTACT DATA

Contact arrangement	2C
Contact resistance	50mΩ (at 0.1A 6VDC)
Contact material	AgNi + Au plated
Contact rating (Res. load)	1A 125VAC, 2A 30VDC
Max. switching voltage	240VAC / 120VDC
Max. switching current	2A
Max. switching power	125VA / 60W
Min. applicable load	10mV 10μA
Mechanical endurance	1x10 <sup>8</sup> OPS
Electrical endurance	1x10 <sup>5</sup> OPS (at 2A 30VDC) 3x10 <sup>5</sup> OPS (at 1A 30VDC)

## COIL

Coil power	Standard: 280 to 580mW
	Sensitive: 200mW
	High Sensitive: 150mW
Temperature rise	65K max.

## COIL DATA

at 23°C

Standard (280 to 580mW)

Order Number	Coil Voltage VDC	Pick-up Voltage VDC	Drop-out Voltage VDC	Max. Allowable Voltage VDC	Coil Resistance Ω
003-M	3	2.25	0.3	4.5	30 x (1±10%)
005-M	5	3.75	0.5	8.0	90 x (1±10%)
006-M	6	4.50	0.6	10.0	130 x (1±10%)
009-M	9	6.80	0.9	14.5	280 x (1±10%)
012-M	12	9.00	1.2	18.5	450 x (1±10%)
015-M	15	11.3	1.5	22.0	625 x (1±10%)
024-M	24	18.0	2.4	35.5	1600 x (1±10%)
048-M	48	36.0	4.8	56.0	4000 x (1±10%)

Sensitive (200mW)

Order Number	Coil Voltage VDC	Pick-up Voltage VDC	Drop-out Voltage VDC	Max. Allowable Voltage VDC	Coil Resistance Ω
003-S	3	2.25	0.3	6	45 x (1±10%)
005-S	5	3.75	0.5	10	125 x (1±10%)
006-S	6	4.50	0.6	12	180 x (1±10%)
009-S	9	6.80	0.9	18	405 x (1±10%)
012-S	12	9.00	1.2	24	720 x (1±10%)
015-S	15	11.3	1.5	30	1125 x (1±10%)
024-S	24	18.0	2.4	48	2880 x (1±10%)

## CHARACTERISTICS

Insulation resistance	1000MΩ (at 500VDC)	
Dielectric strength	Between coil & contacts	1500VAC 1min
	Between open contacts	M, S type: 1000VAC 1min H type: 750VAC 1min
Operate time (at nomi. volt.)	6ms max.	
Release time (at nomi. volt.)	4ms max.	
Ambient temperature	-40°C to 85°C	
Humidity	40% to 85% RH	
Vibration resistance	10Hz to 55Hz 1.5mm DA	
Shock resistance	Functional	200m/s <sup>2</sup> (20g)
	Destructive	1000m/s <sup>2</sup> (100g)
Termination	PCB (DIP)	
Unit weight	Approx. 5g	
Construction	Wash tight	

Notes: The data shown above are initial values.



HONGFA RELAY

ISO9001、ISO/TS16949、ISO14001、OHSAS18001 CERTIFIED

2007 Rev. 2.00

## COIL DATA at 23°C

High Sensitive (150mW)

Order Number	Coil Voltage VDC	Pick-up Voltage VDC	Drop-out Voltage VDC	Max. Allowable Voltage VDC	Coil Resistance $\Omega$
003-H	3	2.4	0.3	7.0	60 x (1±10%)
005-H	5	4.0	0.5	11.5	167 x (1±10%)
006-H	6	4.8	0.6	13.8	240 x (1±10%)
009-H	9	7.2	0.9	20.8	540 x (1±10%)
012-H	12	9.6	1.2	27.7	960 x (1±10%)
015-H	15	12.0	1.5	34.6	1500 x (1±10%)
024-H	24	19.2	2.4	55.2	3840 x (1±10%)

**Notes:** When user's requirements can't be found in the above table, special order allowed.

## SAFETY APPROVAL RATINGS

<b>UL&amp;CUR</b>	2A 30VDC
	1A 125VAC
<b>TÜV</b>	2A 30VDC
	1A 125VAC

**Notes:** Only some typical ratings are listed above. If more details are required, please contact us.

## ORDERING INFORMATION

	HFD27 /	012	-S	(XXX)
<b>Type</b> <sup>1)</sup>	HFD27 JRC-27F (Old type)			
<b>Coil voltage</b>	3, 5, 6, 9, 12, 15, 24, 48VDC <sup>2)</sup>			
<b>Coil power</b>	M: Standard (280 to 580mW)    S: Sensitive (200mW) H: High-sensitive (150mW)			
<b>Customer special code</b> <sup>3)</sup>	Only for special requirements, e.g. (555) stands for RoHS compliant			

**Notes:** 1) We have now gradually updated our ordering information. We suggest new type should be selected. If necessary, old type can be kept for some period for the old customers.

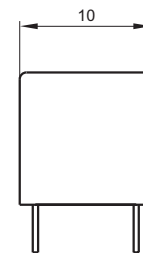
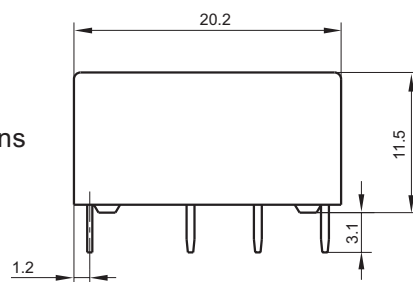
2) 48VDC coil voltage is only for standard version.

3) HFD27 is an environmental friendly product. Please mark a special code (555) when ordering.

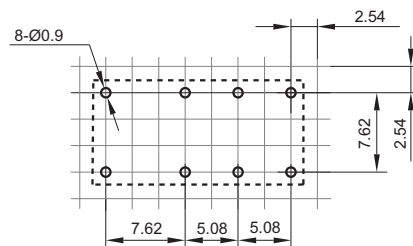
## OUTLINE DIMENSIONS, WIRING DIAGRAM AND PC BOARD LAYOUT

Unit: mm

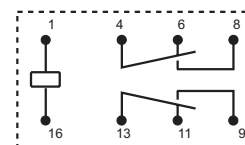
Outline Dimensions



PCB Layout  
(Bottom view)



Wiring Diagram  
(Bottom view)



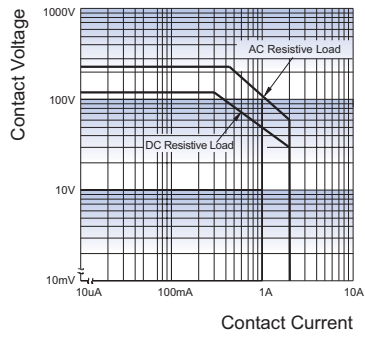
**Remark:** 1) In case of no tolerance shown in outline dimension: outline dimension  $\leq 1$ mm, tolerance should be  $\pm 0.2$ mm; outline dimension  $> 1$ mm and  $\leq 5$ mm, tolerance should be  $\pm 0.3$ mm; outline dimension  $> 5$ mm, tolerance should be  $\pm 0.4$ mm.

2) The tolerance without indicating for PCB layout is always  $\pm 0.1$ mm.

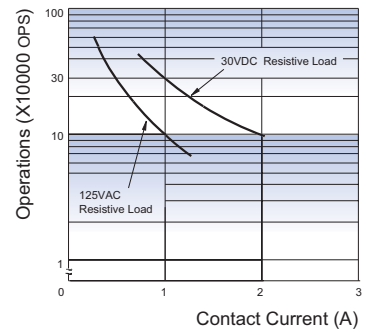
3) The width of the gridding is 2.54mm.

## CHARACTERISTIC CURVES

MAXIMUM SWITCHING POWER



ENDURANCE CURVE



### 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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