

HF152FD**SUBMINIATURE HIGH POWER RELAY****CE**

File No.: E134517



File No.: 40031203

**Features**

- 20A switching capability
- Ambient temperature meets 105°C
- High temperature load: 17A 277VAC at 105°C
- 1 Form C and 1 Form A configurations available
- Double pins and Single pin terminal available, effectively reduce terminal temperature rise
- Product in accordance to EN 60335-1 available
- UL insulation system: Class F available
- Environmental friendly product (RoHS compliant)
- Outline Dimensions: (21.2 x 16.0 x 20.6) mm

CONTACT DATA

Contact arrangement	1A	1C
Contact resistance	100mΩ max. (at 1A 24VDC)	
Contact material	AgSnO ₂ , AgNi	
Contact rating (Res. load)	20A 125VAC 17A 277VAC 7A 400VAC	NO:17A 277VAC NC:10A 277VAC
Max. switching voltage	400VAC	400VAC (NO)
Max. switching current	20A	17A
Max. switching power	4700VA	4700VA
Mechanical endurance	1 x 10 ⁷ OPS	
Electrical endurance	1 x 10 ⁵ OPS	5 x 10 ⁴ OPS

CHARACTERISTICS

Insulation resistance	1000MΩ (at 500VDC)	
Dielectric strength	Between coil & contacts	2500VAC 1min
	Between open contacts	1000VAC 1min
Operate time (at nomi. volt.)	10ms max.	
Release time (at nomi. volt.)	5ms max.	
Shock resistance	Functional	98m/s ²
	Destructive	980m/s ²
Vibration resistance	10Hz to 55Hz 1.5mm DA	
Humidity	5% to 85% RH	
Ambient temperature	-40°C to 105°C	
Termination	PCB	
Unit weight	Approx.14g	
Construction	Plastic sealed, Flux proofed	

Notes: 1) The data shown above are initial values.
 2) Please find coil temperature curve in the characteristic curves below.
 3) UL insulation system: Class F, Class B.

COIL

Coil power	Approx. 360mW
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COIL DATA

at 23°C

Nominal Voltage VDC	Pick-up Voltage VDC max.	Drop-out Voltage VDC min.	Max. Allowable Voltage VDC	Coil Resistance Ω
3	2.25	0.3	3.9	25 x (1±10%)
5	3.75	0.5	6.5	70 x (1±10%)
6	4.50	0.6	7.8	100 x (1±10%)
9	6.75	0.9	11.7	225 x (1±10%)
12	9.00	1.2	15.6	400 x (1±10%)
18	13.5	1.8	23.4	900 x (1±10%)
24	18.0	2.4	31.2	1600 x (1±10%)
48	36.0	4.8	62.4	6400 x (1±10%)

SAFETY APPROVAL RATINGS

UL/ CUL	NO, Standard Type	AgNi	20A 125VAC Resistive at 40°C
			17A 125VAC Resistive at 85°C
			16A 277VAC Resistive at 85°C
	AgSnO ₂		10A 277VAC Resistive at 105°C
			12A 277VAC General Use at 105°C
VDE	NO, Q Type	AgNi	1/2HP 125VAC at 40°C
			1HP 250VAC at 40°C
	NC	AgNi	TV-8 125VAC at 40°C
			17A 277VAC Resistive at 105°C
			10A 277VAC Resistive at 105°C
VDE	1 Form A, Standard Type	AgNi	20A 125VAC Resistive at 40°C
			10A 277VAC Resistive at 85°C
	AgSnO ₂		7A 277VAC Resistive at 105°C
VDE	1 Form A, Q Type	AgNi	16A 250VAC Resistive at 85°C
			7A 400VAC Resistive at 105°C
	1 Form C	AgNi	8A 250VAC COSφ=0.4 at 85°C
			10(4)A 250VAC Resistive at 105°C (EN60730-1)
VDE	1 Form C	AgNi	17A 250VAC at 23°C 2h/ at 105°C 2h
			10A 250VAC at 23°C 2h/ at 105°C 2h
VDE	1 Form C	AgNi	NO/NC:10A/7A 250VAC at 105°C

Notes: 1) Only some typical ratings are listed above. If more details are required, please contact us.



HONGFA RELAY

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

2013 Rev. 1.00

ORDERING INFORMATION

HF152FD / 12 -1Z P S T G F Q (XXX)	
Type	
Coil voltage	3, 5, 6, 9, 12, 18, 24, 48VDC
Contact arrangement	1H: 1 Form A 1Z: 1 Form C
Pin version	P: Double pins Nil: Single pin
Construction ¹⁾	S: Plastic sealed Nil: Flux proofed
Contact material	T: AgSnO ₂ Nil: AgNi
Contact plating	G: Gold plated Nil: No gold plated
Insulation standard	F: Class F Nil: Class B
Contact endurance	Q: Long endurance type (Only for AgNi type) Nil: Standard type

Customer special code

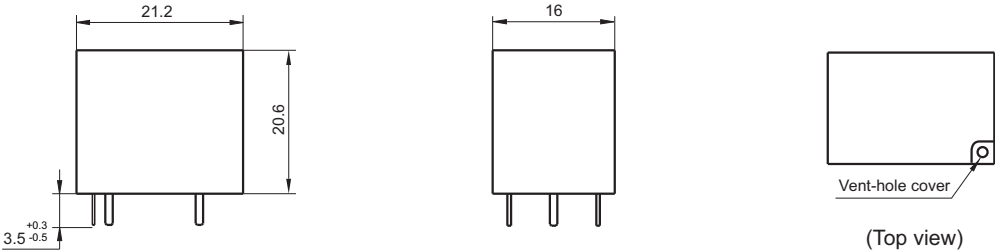
Notes: 1) Under the ambience with dangerous gas like H₂S, SO₂ or NO₂, plastic sealed type is recommended; Please test the relay in real applications.
If the ambience allows, flux proofed type is preferentially recommended.
If water cleaning is required after the relay is assembled on PCB, please contact us for suggestion about suitable parts.
2) If plastic sealed type is selected for cleaning purpose, the vent-hole cover should be excised after cleaning.

OUTLINE DIMENSIONS, WIRING DIAGRAM AND PC BOARD LAYOUT

Unit: mm

Single pin version

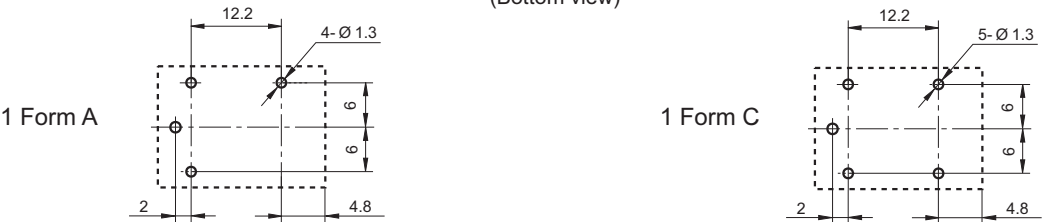
Outline Dimensions



Wiring Diagram
(Bottom view)



PCB Layout
(Bottom view)

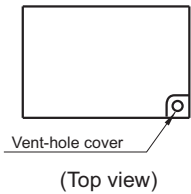
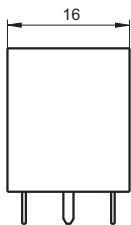
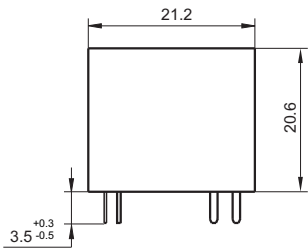


OUTLINE DIMENSIONS, WIRING DIAGRAM AND PC BOARD LAYOUT

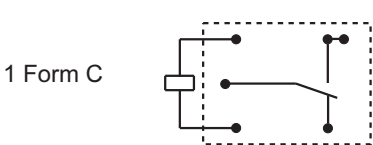
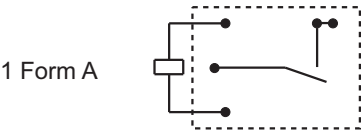
Unit: mm

Double pin version

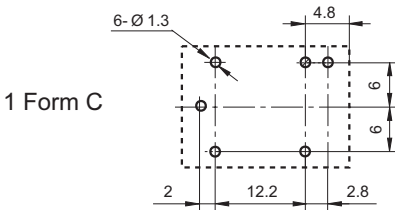
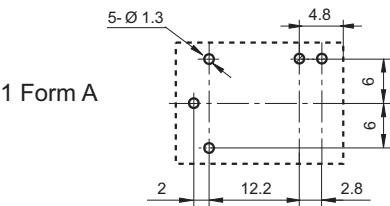
Outline Dimensions



Wiring Diagram
(Bottom view)



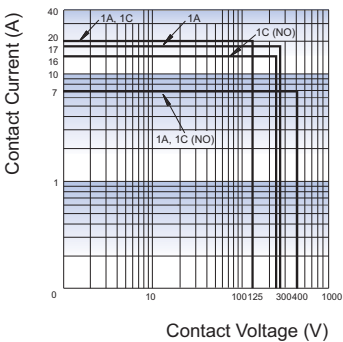
PCB Layout
(Bottom view)



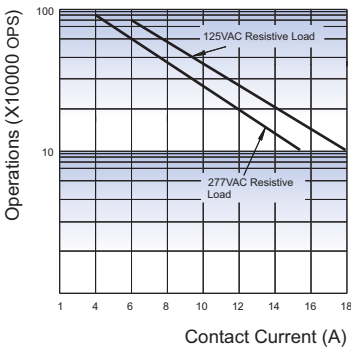
Remark: 1) In case of no tolerance shown in outline dimension: outline dimension $\leq 1\text{mm}$, tolerance should be $\pm 0.2\text{mm}$; outline dimension $> 1\text{mm}$ and $\leq 5\text{mm}$, tolerance should be $\pm 0.3\text{mm}$; outline dimension $> 5\text{mm}$, tolerance should be $\pm 0.4\text{mm}$.
2) The tolerance without indicating for PCB layout is always $\pm 0.1\text{mm}$.

CHARACTERISTIC CURVES

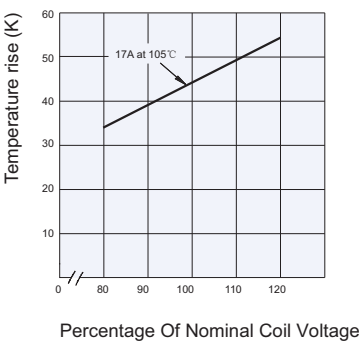
MAX. SWITCHING POWER



ENDURANCE CURVE



COIL TEMPERATURE RISE



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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