

HF3FD

SUBMINIATURE HIGH POWER RELAY



File No.: E134517



File No.: 40014057



Features

- Extremely low cost
- 2.5kV dielectric strength (between coil and contacts)
- Flammability class according to UL94, V-0
- CTI 250, VDE 0631 / 0700
- 1 From A and 1 From C configurations
- Subminiature, standard PCB layout
- Product in accordance to IEC 60335-1
- Environmental friendly product (RoHS compliant)
- Outline Dimensions: (19.0 x 15.2 x 15.5) mm

CONTACT DATA

Contact arrangement	1A	1C
Contact resistance	100mΩ (at 1A 6VDC)	
Contact material	AgSnO ₂ , AgNi	
Contact rating (Res. load)	10A 250VAC 10A 28VDC	NO: 10A 250VAC/28VDC NO/NC: 7A/3A 250VAC NO/NC: 5A/5A 250VAC
Max. switching voltage	277VAC/30VDC	
Max. switching current	15A	10A
Max. switching power	2770VA / 300W	
Mechanical endurance	1 x 10 ⁷ OPS	
Electrical endurance	1 x 10 ⁵ OPS	

CHARACTERISTICS

Insulation resistance	100MΩ (at 500VDC)	
Dielectric strength	Between coil & contacts	2000VAC/2500VAC 1min
	Between open contacts	750VAC 1min
Operate time (at nomi. volt.)	10ms max.	
Release time (at nomi. volt.)	5ms max.	
Shock resistance	Functional	100m/s ² (10g)
	Destructive	1000m/s ² (100g)
Vibration resistance	10Hz to 55Hz 1.5mm DA	
Humidity	35% to 85% RH	
Ambient temperature	-40°C to 105°C	
Termination	PCB	
Unit weight	Approx. 10g	
Construction	Wash tight, Flux proofed	

Notes: 1) The data shown above are initial values.
2) Please find coil temperature curve in the characteristic curves below.

COIL

Coil power	360mW
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COIL DATA

at 23°C

Nominal Voltage VDC	Pick-up Voltage VDC	Drop-out Voltage VDC	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 & CUR	Material	1A	10A 250VAC at 85°C
		1C	NO/NC: 5A/5A 250VAC at 85°C NO: 10A 250VAC at 85°C NO: 1/2HP 125VAC NO: TV-5 120VAC
UL & CUR	Material	1A	10A 250VAC at 85°C 6A 250VAC at 105°C
		1C	NO: 10A 250VAC at 85°C NO: 6A 250VAC at 105°C NC: 6A 250VAC at 85°C NO/NC: 7A/3A 250VAC at 85°C NO: 1/2HP 125VAC
VDE	Material	1A	10A 250VAC at 85°C
		1C	NO/NC: 5A/5A 250VAC at 85°C NO: 10A 250VAC at 85°C
	Material	1A	10A 250VAC at 85°C 6A 250VAC at 105°C 5A 400VAC at 105°C
		1C	NO: 10A 250VAC at 85°C NO: 6A 250VAC at 105°C NC: 6A 250VAC at 85°C NO/NC: 7A/3A 250VAC at 85°C 5A 400VAC at 105°C

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



HONGFA RELAY

ISO9001, ISO/TS16949, ISO14001, OHSAS18001 CERTIFIED

2007 Rev. 2.00

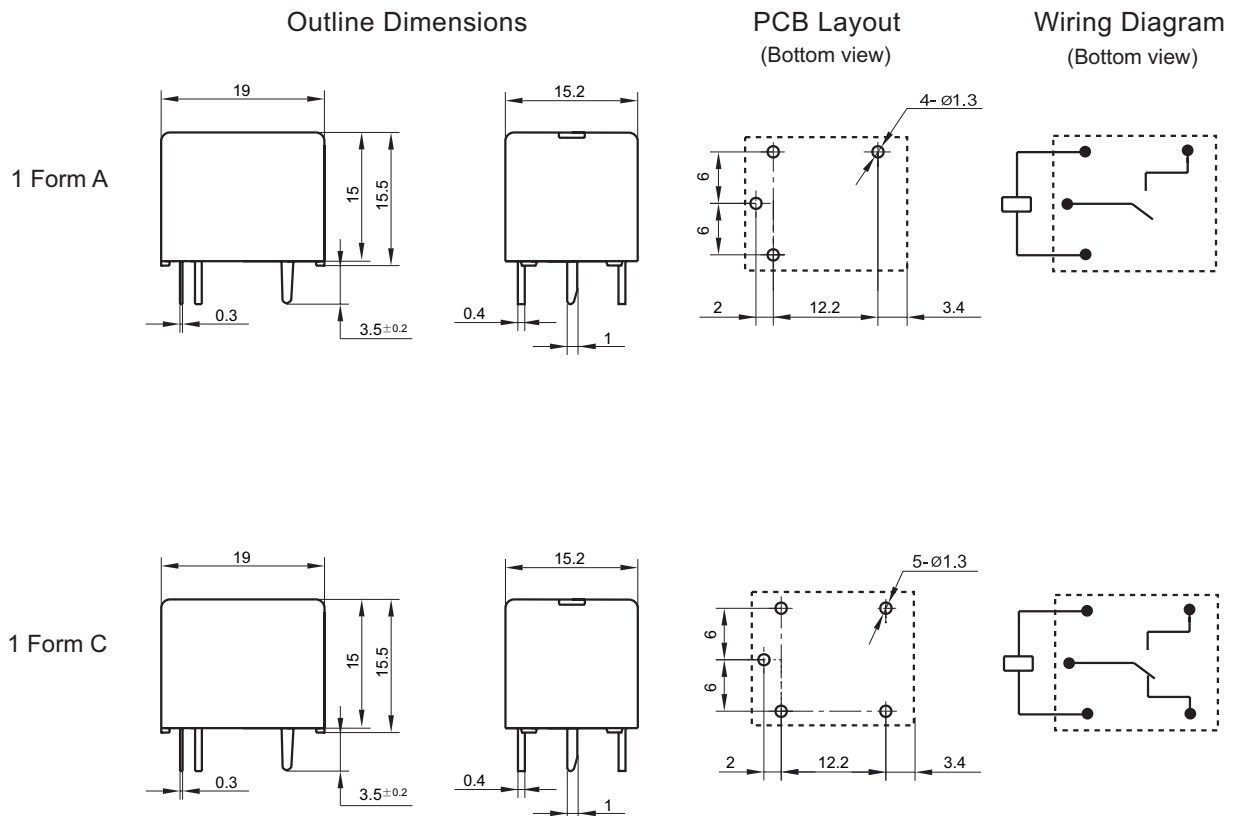
ORDERING INFORMATION

HF3FD / 012 -H S T F (XXX)	
Type	HF3FD: Dielectric Strength 2000VAC HF3FD-1: Dielectric Strength 2500VAC
Coil voltage	3, 5, 6, 9, 12, 18, 24, 48VDC
Contact arrangement	H: 1 Form A Z: 1 Form C
Construction ¹⁾	S: Wash tight Nil: Flux proofed
Contact material	T: AgSnO ₂ 3: AgNi
Insulation system	F: Class F Nil: Class B
Customer special code ²⁾	Only for special requirements, e.g. (555) stands for RoHS compliant

Notes: 1) Under the ambience with dangerous gas like H₂S, SO₂ or NO₂, wash tight type is recommended; please test the relay in real applications. If the ambience allows, flux proofed is preferentially recommended.
2) HF3FD is an environmental friendly product. Please mark a special code (555) when ordering.

OUTLINE DIMENSIONS, WIRING DIAGRAM AND PC BOARD LAYOUT

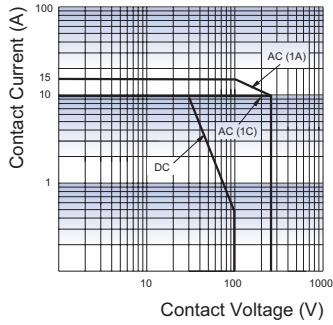
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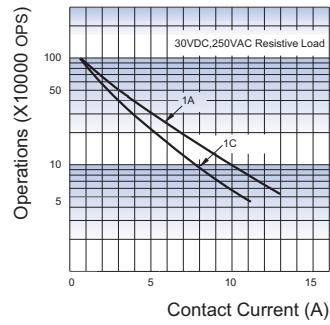
Remark: 1) In case of no tolerance shown in outline dimension: outline dimension ≤ 1 mm, tolerance should be ± 0.2 mm; outline dimension > 1 mm and ≤ 5 mm, tolerance should be ± 0.3 mm; outline dimension > 5 mm, tolerance should be ± 0.4 mm.
2) The tolerance without indicating for PCB layout is always ± 0.1 mm.

CHARACTERISTIC CURVES

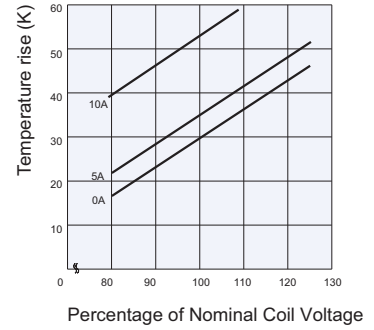
MAXIMUM SWITCHING POWER



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.