

# HF3FA

## SUBMINIATURE HIGH POWER RELAY



File No.: E134517



File No.: 40023708



File No.:CQC08002027860



### Features

- 15A switching capability
- Flammability class according to UL94, V-0
- CTI 250 available
- Product in accordance to IEC 60335-1 available
- 1 Form A and 1 Form C configurations
- Subminiature, standard PCB layout
- UL insulation system: Class F available
- 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 max.(at 1A 6VDC)	
Contact material	AgSnO <sub>2</sub>	
Contact rating (Res. load)	10A 250VAC 10A 28VDC	NO: 10A 250VAC/28VDC 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 <sup>7</sup> OPS	
Electrical endurance <sup>1)</sup>	1 x 10 <sup>5</sup> OPS (NO, at 8A 250VAC) 5 x 10 <sup>4</sup> OPS (NO, at 10A 250VAC)	

### CHARACTERISTICS

Insulation resistance	100MΩ (at 500VDC)	
Dielectric strength	Between coil & contacts	2500VAC 1min
	Between open contacts	750VAC 1min
Operate time (at nomi. volt.)	10ms max.	
Release time (at nomi. volt.)	5ms max.	
Shock resistance	Functional	98m/s <sup>2</sup>
	Destructive	980m/s <sup>2</sup>
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. 7.0g	
Construction	Plastic sealed, Flux proofed	

- Notes:** 1) For sealed type, the vent-hole cover should be excised.  
 2) The data shown above are initial values.  
 3) Please find coil temperature curve in the characteristic curves below.  
 4) 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	1 Form A	10A 250VAC at 85°C 8A 277VAC at 85°C 6A 250VAC at 105°C 15A 125VAC 1/2HP 125VAC/250VAC TV5 125VAC/120VAC
	1 Form C	NO/NC: 5A/5A 277VAC at 85°C
VDE	1 Form A	6A 250VAC at 105°C 10A 250VAC at 85°C
	1 Form C	NO: 10A 250VAC at 85°C NO: 6A 250VAC at 105°C NO/NC: 5A/5A 250VAC at 85°C

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



HONGFA RELAY

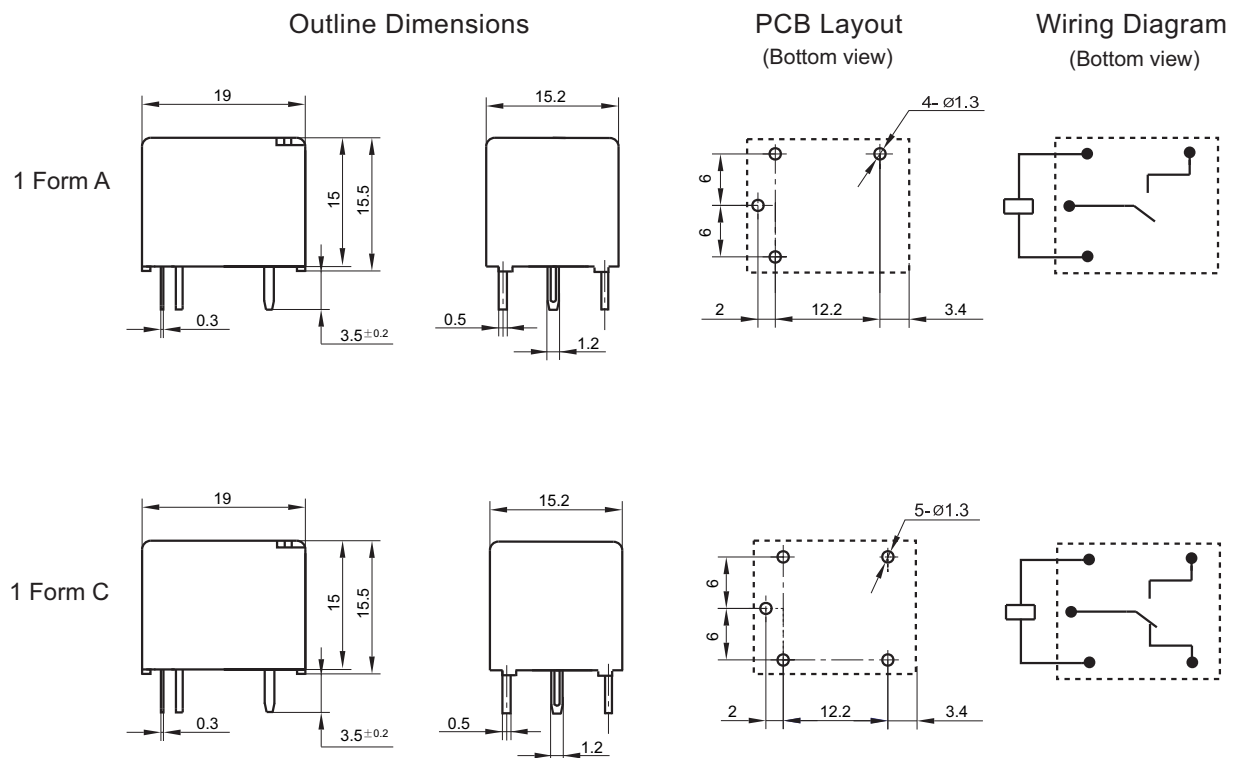
## ORDERING INFORMATION

Type	HF3FA / 012 -H S T F (XXX)
Coil voltage	3, 5, 6, 9, 12, 18, 24, 48VDC
Contact arrangement	H: 1 Form A Z: 1 Form C
Construction <sup>1)</sup>	S: Plastic sealed Nil: Flux proofed
Contact material	T: AgSnO <sub>2</sub>
Insulation system	F: Class F Nil: Class B
Customer special code	e.g. (335) stands for product in accordance to IEC 60335-1 (GWT)

**Notes:** 1) We recommend flux proofed types for a clean environment (free from contaminations like H<sub>2</sub>S, SO<sub>2</sub>, NO<sub>2</sub>, dust, etc.).  
We suggest to choose plastic sealed types and validate it in real application for an unclean environment (with contaminations like H<sub>2</sub>S, SO<sub>2</sub>, NO<sub>2</sub>, dust, etc.).  
If water cleaning is required after the relay is assembled on PCB, please contact us for suggestion about suitable parts.

## OUTLINE DIMENSIONS, WIRING DIAGRAM AND PC BOARD LAYOUT

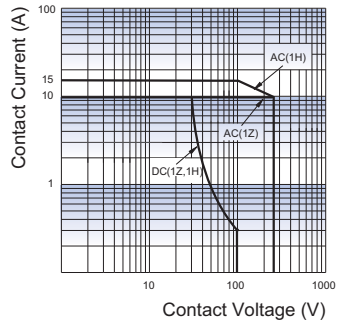
Unit: mm



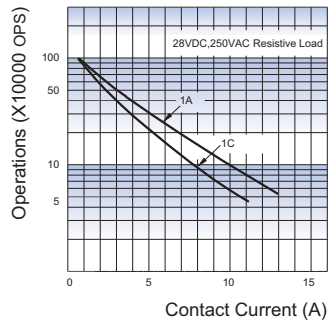
Remark: 1) In case of no tolerance shown in outline dimension: outline dimension  $\leq 1\text{mm}$ , tolerance should be  $\pm 0.2\text{mm}$ ; outline dimension  $> 1\text{mm}$  and  $\leq 5\text{mm}$ , tolerance should be  $\pm 0.3\text{mm}$ ; outline dimension  $> 5\text{mm}$ , tolerance should be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

# CHARACTERISTIC CURVES

MAXIMUM SWITCHING POWER



ENDURANCE CURVE



COIL TEMPERATURE RISE

