

# HF10FF-Q

## MINIATURE HIGH POWER RELAY



File No.:E134517



### Features

- 10A switching capability
- Bridge transformation available, Multiple switching capability (2C, 3C type)
- QC terminal
- Dust protected type
- Multiple auxiliary functions available

RoHS compliant

### CONTACT DATA

Contact arrangement	QZ,2C, 3C
Contact resistance	100mΩ max.(at 1A 24VDC)
Contact material	AgSnO <sub>2</sub> , AgCdO
Contact rating (Res. load)	QZ/2C: 10A 250VAC / 30VDC 3C: (NO) 10A 250VAC / 30VDC (NC) 5A 250VAC / 30VDC
Max. switching voltage	250VAC / 30VDC
Max. switching current	10A
Max. switching power	2500VA / 300W
Mechanical endurance	1 x 10 <sup>7</sup> ops
Electrical endurance	QZ/2 Form C type: 1 x 10 <sup>5</sup> ops (10A 250VAC/30VDC; Resistive load, Room temp., 1s on 9s off) 3 Form C type:1 x 10 <sup>5</sup> ops (NO:10A 250VAC/30VDC; NC: 5A 250VAC/30VDC; Resistive load, Room temp., 1s on 9s off)

**Notes:** The data shown above are initial values.

### CHARACTERISTICS

Insulation resistance		1000MΩ (500VDC)
Dielectric strength	Between coil & contacts	2500VAC 1min
	Between open contacts	1500VAC 1min
	Between contact sets	2000VAC 1min
Operate time (at nomi. volt.)		30ms(DC) max.
Release time (at nomi. volt.)		30ms(DC) max.
Temperature rise (at nomi. volt.)		100K 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 55°C
Termination		QC terminal
Unit weight		Approx.90g
Construction		Dust protected

### COIL

Coil power	DC type: Approx.1.4W; AC type: Approx. 3.0VA
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### COIL DATA at 23°C

Nominal Voltage VDC	Pick-up Voltage VDC max.	Drop-out Voltage VAC min.	Max. <sup>2)</sup> Voltage VAC	Coil Resistance Ω
006	4.80	0.60	7.20	23.5 x (1±10%)
012	9.60	1.20	14.4	120 x (1±10%)
024	19.2	2.40	28.8	470 x (1±10%)
048	38.4	4.80	57.6	1800 x (1±10%)
060	48.0	6.00	72.0	2790 x (1±10%)
100	80.0	10.0	120	7500 x (1±10%)
110	88.0	11.0	132	
120	96.0	12.0	144	
220	176	22.0	264	37000 x (1±10%)

### SAFETY APPROVAL RATINGS

UL/CUL	10A 250VAC/30VDC 1/3HP 120VAC 1/3HP 240VAC 1/2HP 277VAC
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HONGFA RELAY

ISO9001, IATF16949, ISO14001, ISO45001, IECQ QC 080000, ISO/IEC 27001 CERTIFIED

2024 Rev. 1.00

COIL DATA				at 23°C
Nominal Voltage VAC	Pick-up Voltage VAC max.	Drop-out Voltage VAC min.	Max. <sup>2)</sup> Voltage VAC	Coil Resistance Ω
006	4.80	1.80	7.20	3.9 x (1±10%)
012	9.60	3.60	14.4	16.9 x (1±10%)
024	19.2	7.20	28.8	72 x (1±10%)
048	38.4	14.4	57.6	290x (1±10%)
110	88.0	33.0	132	1700 x (1±10%)
120	96.0	36.0	144	
110/120	88.0	36.0	132	
220	176	36.0	264	6500 x (1±10%)
230	184	69.0	276	
220/240	176	72.0	264	
240	192	72.0	288	

**Notes:** 1) All values unspecified are at room temperature.

2) Maximum voltage refers to the maximum voltage which relay coil could endure in a short period of time.

ORDERING INFORMATION			
Type	HF10F	F	-Q /230 A -2Z D T G (XXX)
Button Function	F: Standard type without button		
Terminal arrangement	Q: QC terminal		
Coil voltage	See "COIL DATA"Nominal Voltage		
Coil voltage form	A: AC D: DC		
Contact arrangement	QZ: Bridge transformation 2Z: 2 Form C 3Z: 3 Form C		
Combined component code	D: With LED type DJ: With LED and diode type(only for DC type) Nil: Standard		
Contact material	T: AgSnO <sub>2</sub> Nil: AgCdO		
Contact plating	G: Gold plated Nil: No gold plated		
Special code <sup>1)</sup>	XXX: Customer special requirement Nil: Standard		

**Notes:** 1) The customer special requirement express as special code after evaluating by Hongfa.

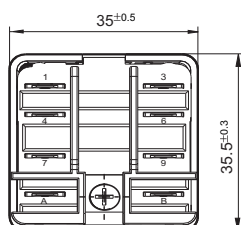
# OUTLINE DIMENSIONS, WIRING DIAGRAM AND PC BOARD LAYOUT

Unit: mm

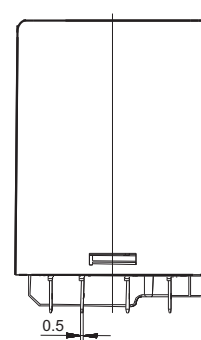
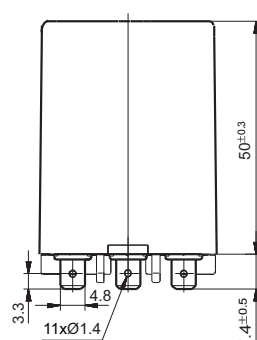
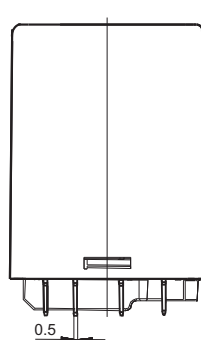
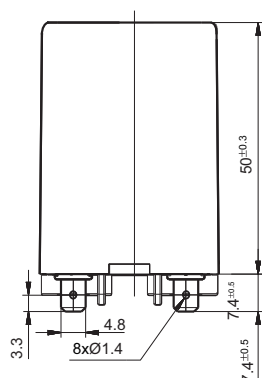
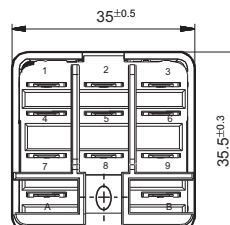
## Outline Dimensions

(Bottom view)

QZ/2 Form C  
(HF10FF-Q)



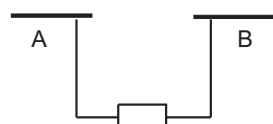
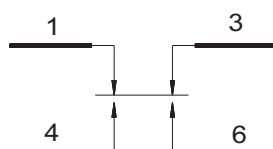
3 Form C  
(HF10FF-Q)



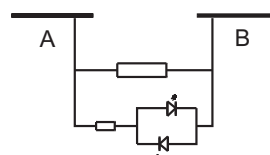
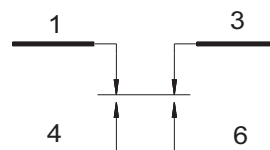
## Wiring Diagram

(Bottom view)

QZ  
(HF10FF-Q)



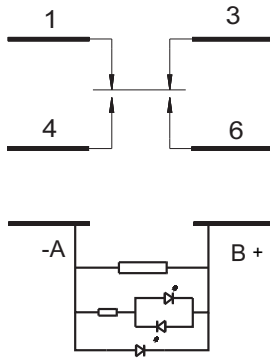
QZ  
(HF10FF-Q With LED)



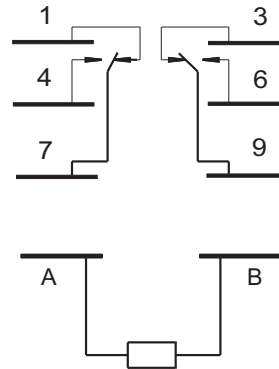
## Wiring Diagram

(Bottom view)

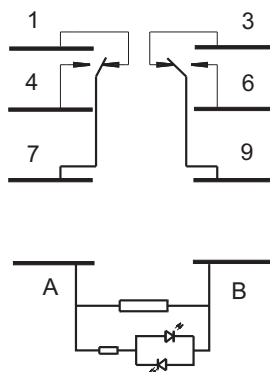
QZ  
(HF10FF-Q With LED, With fly-wheel diode)



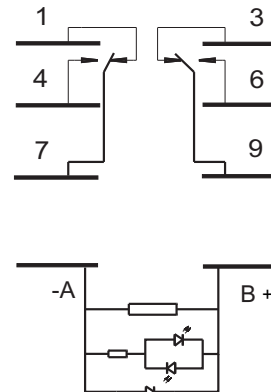
2 Form C  
(HF10FF-Q)



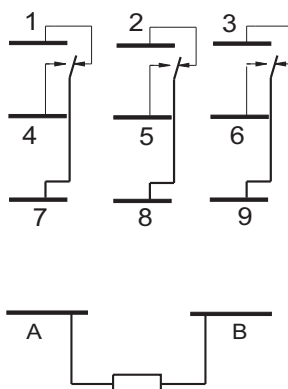
2 Form C  
(HF10FF-Q With LED)



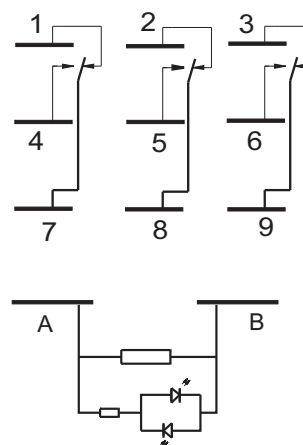
2 Form C  
(HF10FF-Q With LED, With fly-wheel diode)



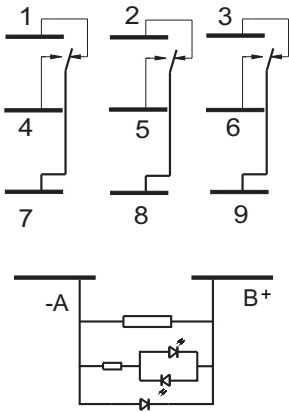
3 Form C  
(HF10FF-Q)



3 Form C  
(HF10FF-Q With LED)

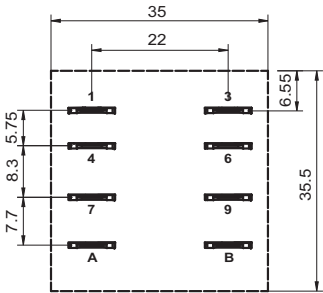


3 Form C  
(HF10FF-Q With LED, With fly-wheel diode)

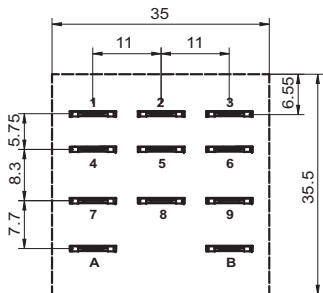


PCB Layout  
(Bottom view)

HF10FF-Q-2Z/HF10FF-Q-QZ

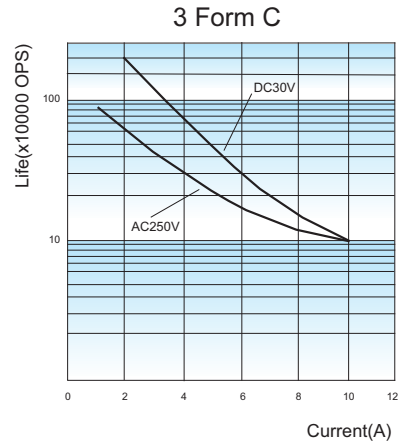
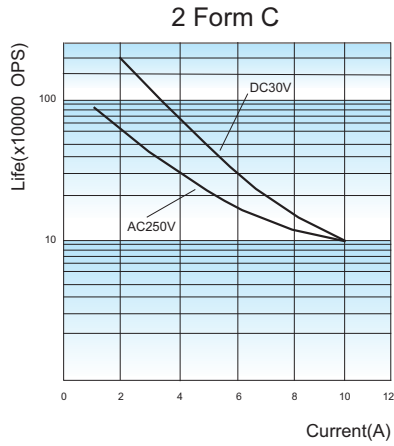


HF10FF-Q-3Z

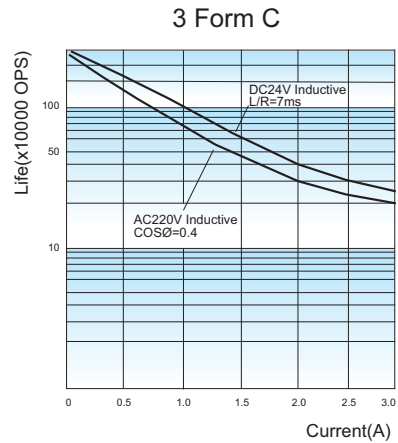
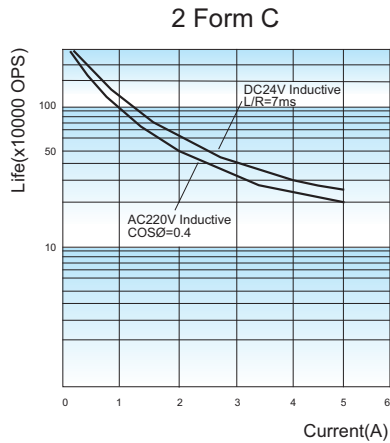


## CHARACTERISTIC CURVES

### RESISTIVE ENDURANCE CURVE



### INDUCTIVE ENDURANCE CURVE



#### Disclaimer

The specification is for reference only. See to "Terminology and Guidelines" for more information. Specifications 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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