

HF18FA

MINIATURE INTERMEDIATE POWER RELAY



File No.: E133481



Features

- 10A switching capability (2C type)
- 2kV dielectric strength (between coil and contacts)
- 2 & 4 pole configurations
- Various terminals, test button available
- Gold plated contact available
- Sockets available
- Environmental friendly product (RoHS compliant)
- Outline Dimensions: (28.0 x 21.5 x 36.0) mm

CONTACT DATA

Contact arrangement	2C	4C
Contact resistance	100mΩ max.(at 1A 6VDC)	
Contact material	See ordering info.	
Contact rating (Res. load)	10A 250VAC/30VDC	6A 250VAC/30VDC
Max. switching voltage	250VAC / 30VDC	
Max. switching current	10A	6A
Max. switching power	2500VA / 300W	1500VA / 180W
Mechanical endurance	1 x 10 ⁷ OPS	
Electrical endurance	2Z type: 1 x 10 ⁵ OPS (10A 250VAC, Resistive load, Room temp., 1s on 9s off)	
	2Z type: 1 x 10 ⁵ OPS (10A 30VDC, Resistive load, Room temp., 1s on 9s off)	
	4Z type: 1 x 10 ⁵ OPS (6A 250VAC, Resistive load, Room temp., 1s on 9s off)	
	4Z type: 1 x 10 ⁵ OPS (6A 30VDC, Resistive load, Room temp., 1s on 9s off)	

CHARACTERISTICS

Insulation resistance	1000MΩ (at 500VDC)	
Dielectric strength	Between coil & contacts	2000VAC 1min
	Between open contacts	1000VAC 1min
	Between contact sets	2000VAC 1min
Operate time (at nomi. volt.)	DC type: 20ms max.	
Release time (at nomi. volt.)	DC type: 20ms max.	
Temperature rise (no-load, at nomi.volt.)	60K max.	
Shock resistance	Functional	98m/s ²
	Destructive	980m/s ²
Vibration resistance	10Hz to 55Hz 1mm DA	
Humidity	5% to 85% RH	
Ambient temperature	-40°C to 70°C	
Termination	PCB, Plug-in	
Unit weight	Approx. 37g	
Construction	Dust protected	

Notes: 1) The data shown above are initial values.

2) UL insulation system: Class A.

COIL

Coil power	DC type: Approx. 0.9W to 1.1W; AC type: Approx. 1.2VA to 1.8VA
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COIL DATA

at 23°C

Nominal Voltage VDC	Pick-up Voltage VDC max.	Drop-out Voltage VDC min.	Max. Voltage VDC*	Coil Resistance Ω
5	4.0	0.50	5.5	27.5 x (1±10%)
6	4.8	0.60	6.6	40 x (1±10%)
12	9.6	1.20	13.2	160 x (1±10%)
24	19.2	2.40	26.4	650 x (1±10%)
48	38.4	4.80	52.8	2600 x (1±15%)
110/120	88.0	12.0	132	11000 x (1±15%)

Nominal Voltage VAC	Pick-up Voltage VAC max.	Drop-out Voltage VAC min.	Max. Voltage VAC*	Coil Resistance Ω
6	4.80	1.80	6.6	11.5 x (1±10%)
12	9.60	3.60	13.2	46 x (1±10%)
24	19.2	7.20	26.4	184 x (1±10%)
48	38.4	14.4	52.8	735 x (1±10%)
100/110	80.0	33.0	121	3750 x (1±15%)
110/120	88.0	36.0	132	4550 x (1±15%)
200/220	160	66.0	242	12950 x (1±15%)
220/240	176	72.0	264	18790 x (1±15%)

Notes: * Maximum voltage refers to the maximum voltage which relay coil could endure in a short period of time.

SAFETY APPROVAL RATINGS

UL/CUL	AgNi	2 Form C	10A 250VAC/30VDC
		4 Form C	7A 250VAC/30VDC
	AgSnO ₂	2 Form C	10A 250VAC/30VDC
		4 Form C	7A 250VAC/30VDC
	AgCdO	2 Form C	10A 250VAC/30VDC
		4 Form C	7A 250VAC/30VDC

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

2) Only typical loads are listed above. Other load specifications can be available upon request.



HONGFA RELAY

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

2014 Rev. 1.02

ORDERING INFORMATION

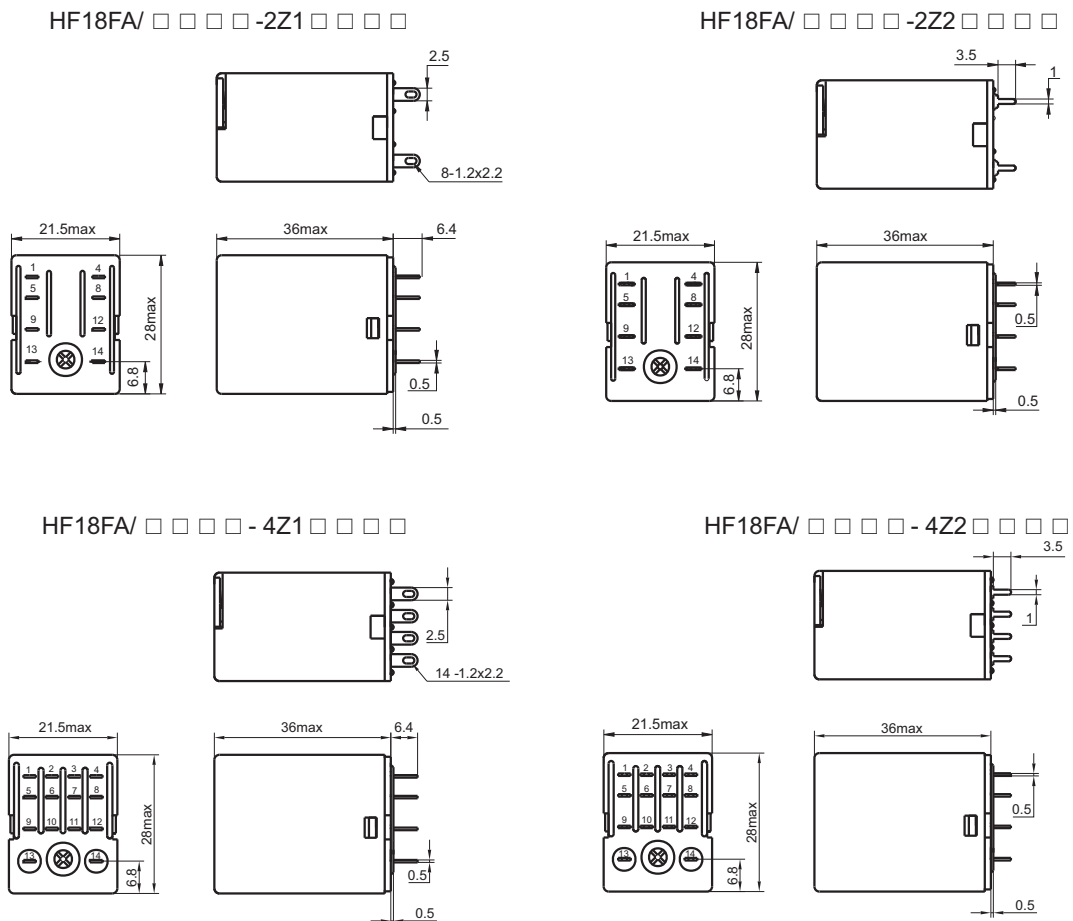
Type	HF18FA /	A	24	-2Z	1	G	D	J	(XXX)
Coil voltage form	A: AC Nil: DC								
Coil voltage	DC: 5VDC to 110VDC AC: 6VAC to 240VAC								
Contact arrangement	2Z: 2 Form C 4Z: 4 Form C								
Mounting Termination (See the following)	1: Socket 2: PCB								
Contact material	Nil: AgCdO G: AgCdO + Au plated 3: AgNi T: AgSnO2 TG: AgSnO2 + Au plated 3G: AgNi + Au								
LED	D: With LED Nil: Without LED								
Fly-wheel diode	J: With fly-wheel diode ¹⁾ (Only for DC type) Nil: Without fly-wheel diode								
Customer special code									

Notes: 1) There is no UL approval for J type.

OUTLINE DIMENSIONS, WIRING DIAGRAM AND PC BOARD LAYOUT

Unit: mm

Outline Dimensions

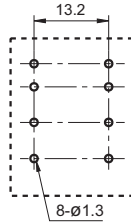


OUTLINE DIMENSIONS, WIRING DIAGRAM AND PC BOARD LAYOUT

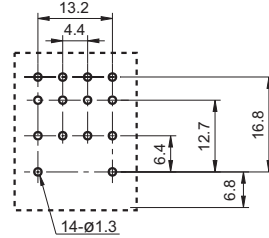
Unit: mm

PCB Layout (Bottom view)

2 Form C

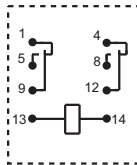


4 Form C

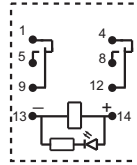


Wiring Diagram (Bottom view)

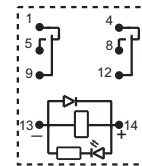
2 Form C



2 Form C (With LED)

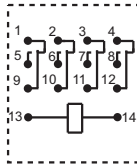


2 Form C
(DC, With fly-wheel diode)

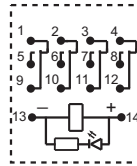


Remark: For AC parts with diode, the positive and negative pole markings on wiring diagram are not applicable.

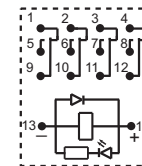
4 Form C



4 Form C (With LED)



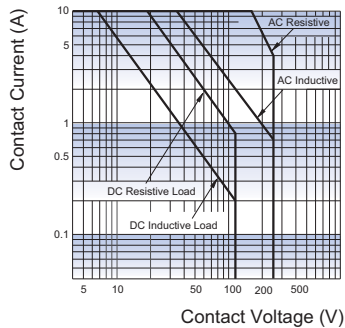
4 Form C
(DC, With fly-wheel diode)



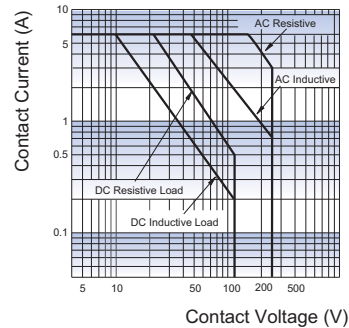
Remark: 1) In case of no tolerance shown in outline dimension: outline dimension $\leq 1\text{mm}$, tolerance should be $\pm 0.2\text{mm}$; outline dimension $> 1\text{mm}$ and $\leq 5\text{mm}$, tolerance should be $\pm 0.3\text{mm}$; outline dimension $> 5\text{mm}$, tolerance should be $\pm 0.4\text{mm}$.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

CHARACTERISTIC CURVES

MAXIMUM SWITCHING POWER
(2 Form C)



MAXIMUM SWITCHING POWER
(4 Form C)



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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