

HF92F

MINIATURE INTERMEDIATE POWER RELAY



File No.:E134517



File No.:40016109



File No.:CQC09002037814 (DC type)



Features

- 30A switching capability
- Creepage distance: 8mm
- 4kV dielectric strength (between coil and contacts)
- UL insulation system: Class F
- Plastic sealed and dust protected types available
- PCB & QC layouts available
- Environmental friendly product (RoHS compliant)
- Outline Dimensions: (52.0 x 33.7 x 26.7) mm

CONTACT DATA

Contact arrangement	2A, 2C
Contact resistance	50mΩ max.(at 1A 24VDC)
Contact material	AgSnO ₂ , AgCdO
Contact rating (Res. load)	NO: 30A 250VAC; 30A 277VAC NC: 3A 250VAC; 3A 277VAC
Max. switching voltage	277VAC
Max. switching current	30A
Max. switching power	8310VA
Mechanical endurance	5 x 10 ⁶ OPS
Electrical endurance	1 x 10 ⁵ OPS

CHARACTERISTICS

Insulation resistance	1000MΩ (at 500VDC)	
Dielectric strength	Between coil & contacts	4000VAC 1min
	Between open contacts	1500VAC 1min
	Between contact poles	2000VAC 1min
Surge voltage (between coil & contacts)	10kV (1.2 x 50μs)	
Operate time (at nomi. volt.)	DC type: 25ms max.	
Release time (at nomi. volt.)	DC type: 25ms max.	
Temperature rise (at nomi. volt.)	AC type:90K max.	
	DC type:70K max.	
Shock resistance	Functional	98m/s ²
	Destructive	980m/s ²
Vibration resistance	10Hz to 55Hz 1.65mm DA	
Humidity	5% to 85% RH	
Ambient temperature	AC: -40°C to 65°C	
	DC: -40°C to 85°C	
Termination	PCB, QC	
Unit weight	Approx. 86g	
Construction	Plastic sealed, Dust protected	

Notes: The data shown above are initial values.

COIL

Coil power	DC type: Approx. 1.7W; AC type: Approx. 4.0VA
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COIL DATA

at 23°C

DC type

Nominal Voltage VDC	Pick-up Voltage VDC max.	Drop-out Voltage VDC min.	Max. Allowable Voltage VDC	Coil Resistance Ω
5	3.8	0.5	8.0	15.3 x (1±10%)
6	4.5	0.6	9.6	22 x (1±10%)
12	9	1.2	19.2	86 x (1±10%)
24	18	2.4	38.4	350 x (1±10%)
48	36	4.8	76.8	1390 x (1±10%)
110	82.5	11	176	7255 x (1±10%)

AC type (at 50Hz/60Hz)

Nominal Voltage VAC	Pick-up Voltage VAC max.	Drop-out Voltage VAC min.	Max. Allowable Voltage VAC	Coil Resistance Ω
110/120	88/96	22/24	121/132	950 x (1±10%)
200/208	160/166.4	40/41.6	220/229	2841 x (1±10%)
220/240	176/192	44/48	242/264	3800 x (1±10%)
250/277	200/221.6	50/55.4	275/305	5485 x (1±10%)

AC type (at 50Hz)

Nominal Voltage VAC	Pick-up Voltage VAC max.	Drop-out Voltage VAC min.	Max. Allowable Voltage VAC	Coil Resistance Ω
24	19.2	4.8	26.4	45 x (1±10%)
120	96	24	132	1125 x (1±10%)
208	166.4	41.6	229	3278 x (1±10%)
220	176	44	242	3800 x (1±10%)
240	192	48	264	4500 x (1±10%)
277	221.6	55.4	305	5960 x (1±10%)



HONGFA RELAY

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

2012 Rev. 1.01

COIL DATA

at 23°C

AC type (at 60Hz)

Nominal Voltage VAC	Pick-up Voltage VAC max.	Drop-out Voltage VAC min.	Max. Allowable Voltage VAC	Coil Resistance Ω
24	19.2	4.8	26.4	35.7 x (1±10%)
120	96	24	132	830 x (1±10%)
208	166.4	41.6	229	2600 x (1±10%)
220	176	44	242	2870 x (1±10%)
240	192	48	264	3800 x (1±10%)
277	221.6	55.4	305	4700 x (1±10%)

SAFETY APPROVAL RATINGS

UL/CUL	NO contact	30A 277VAC 1HP 120VAC 2.5HP 240VAC 110 LRA/25.3 FLA 240VAC (DC type)
	NC contact	3A 277VAC
VDE (AgSnO ₂)	NO contact	30A 250VAC 20A 250VAC
	NC contact	3A 250VAC

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

ORDERING INFORMATION

Type	HF92F -012 D -2C 2 2 F (XXX)	
Coil voltage	DC: 5VDC to 110VDC AC: 24VAC to 277VAC	
Coil voltage form	D: DC A5: AC 50Hz	A: AC 50Hz/60Hz A6: AC 60Hz
Contact arrangement	2A: 2 Form A	2C: 2 Form C
Termination	1: PCB	2, 3: QC
Contact material	1: AgSnO ₂	2: AgCdO
Construction ¹⁾	S: Plastic sealed	F: Dust protected
Customer special code		

Notes: 1) We recommend dust protected types for a clean environment (free from contaminations like H₂S, SO₂, NO₂, dust, etc.).

We suggest to choose plastic sealed types and validate it in real application for an unclean environment (with contaminations like H₂S, SO₂, NO₂, dust, etc.).

If water cleaning is required after the relay is assembled on PCB, please contact us for suggestion about suitable parts.

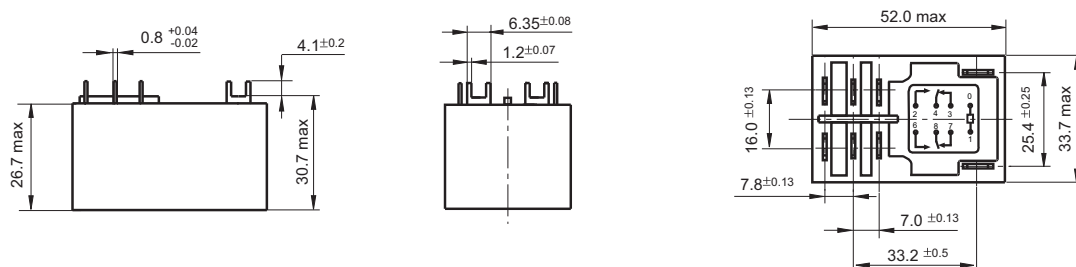
- 2) To avoid using relays under strong magnetic field which will change the parameters of relays such as pick-up voltage and drop-out voltage.
- 3) Relays may be damaged because of falling or when shocking conditions exceed the requirement.
- 4) Regarding the wash tight relay, we should leave it cooling naturally until below 40°C after welding, then clean it and deal with coating, remarkably the temperature of solvents should also be controlled below 40°C. Please avoid cleaning the relay by ultrasonic, avoid using the solvents like gasoline, Freon, and so on, which would affect the configuration of relay or influence the environment.

OUTLINE DIMENSIONS, WIRING DIAGRAM AND PC BOARD LAYOUT

Unit: mm

Outline Dimensions

1 Type (PCB)

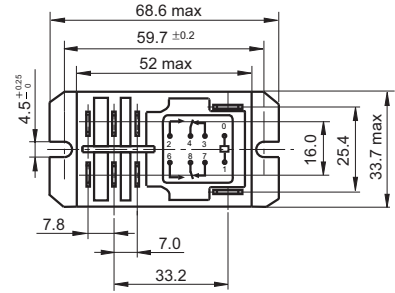
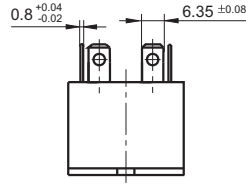
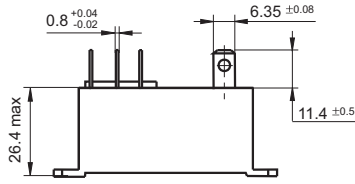


OUTLINE DIMENSIONS, WIRING DIAGRAM AND PC BOARD LAYOUT

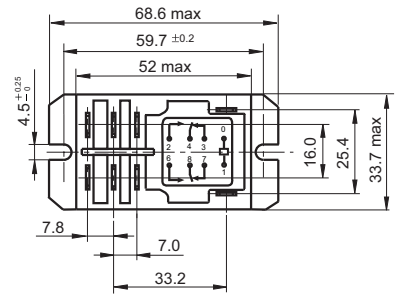
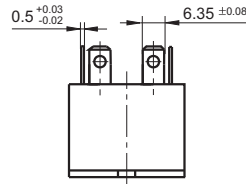
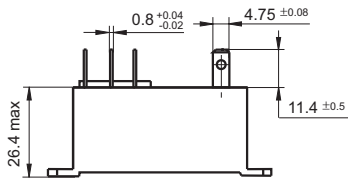
Unit: mm

Outline Dimensions

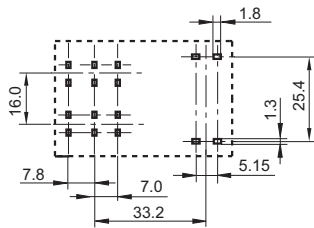
2 Type (QC)



3 Type (QC)

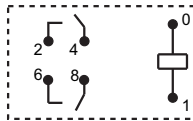


PCB Layout (Bottom view)

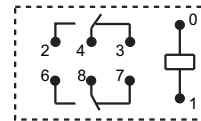


Wiring Diagram (Bottom view)

2 Form A



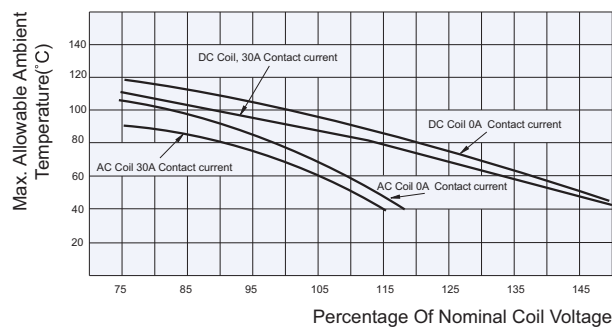
2 Form C



- 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. ALLOWABLE AMBIENT TEMPERATURE



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.