HF38F SUBMINIATURE INTERMEDIATE POWER RELAY

c UL us
File No.:E133481

File No.:R50172340

CQC
File No.:CQC02001001944

Features

- 5A switching capability
- 1 Form A and 1 Form C
- Standard and sensitive coils available
- Plastic sealed and flux proofed types available
- Class A insulation system
- Environmental friendly product (RoHS compliant)
- Outline Dimensions: (20.5 x 10.5 x 20.5) mm

CONTACT DATA

Contact arrangement	1A, 1C
Contact resistance	100mΩ max.(at 1A 6VDC)
Contact material	See ordering info.
Contact rating (Res. load)	NO: 5A 250VAC/30VDC NC: 3A 250VAC/30VDC
Max. switching voltage	250VAC / 30VDC
Max. switching current	5A
Max. switching power	1250VA / 150W
Mechanical endurance	1 x 10^7OPS
Electrical endurance	1 x 10^5OPS

CHARACTERISTICS

Insulation resistance		1000MΩ (at 500VDC)
Dielectric strength	Between coil & contacts	2000VAC 1min
	Between open contacts	1000VAC 1min
Operate time (at nomi. volt.)		10ms max.
Release time (at nomi. volt.)		5ms max.
Humidity		5% to 85% RH
Ambient temperature		-40˚C to 85˚C
Shock resistance	Functional	98m/s^2
	Destructive	980m/s^2
Vibration resistance		10Hz to 55Hz 3.3mm DA
Termination		PCB
Unit weight		Approx. 8g
Construction		Plastic sealed, 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	Standard: Approx. 360mW; Sensitive: Approx. 250mW

COIL DATA at 23˚C

Standard Type

Nominal Voltage VDC	Pick-up Voltage VDC max.	Drop-out Voltage VDC min.	Max. Allowable Voltage VDC	Coil Resistance Ω
3	2.1	0.15	3.9	25 x (1±10%)
5	3.5	0.25	6.5	69 x (1±10%)
6	4.2	0.30	7.8	100 x (1±10%)
9	6.3	0.45	11.7	225 x (1±10%)
12	8.4	0.60	15.6	400 x (1±10%)
18	12.6	0.90	23.4	900 x (1±10%)
24	16.8	1.20	31.2	1600 x (1±10%)
48	33.6	2.40	62.4	6400 x (1±10%)

Sensitive Type

Nominal Voltage VDC	Pick-up Voltage VDC max.	Drop-out Voltage VDC min.	Max. Allowable Voltage VDC	Coil Resistance Ω
3	2.2	0.15	3.9	36 x (1±10%)
5	3.6	0.25	6.5	100 x (1±10%)
6	4.3	0.30	7.8	145 x (1±10%)
9	6.5	0.45	11.7	325 x (1±10%)
12	8.6	0.60	15.6	575 x (1±10%)
18	13.0	0.90	23.4	1300 x (1±10%)
24	17.3	1.20	31.2	2310 x (1±10%)
48	34.6	2.40	62.4	9220 x (1±10%)

SAFETY APPROVAL RATINGS

UL/CUL	1 Form A	AgCdO	5A 250VAC/30VDC
		AgNi $AgSnO_2$	5A 250VAC
	1 Form C	AgCdO	NO: 5A 250VAC/30VDC NC: 3A 250VAC/30VDC
		AgNi $AgSnO_2$	5A 250VAC
TÜV	1 Form A	AgCdO AgNi	5A 250VAC/30VDC at 85˚C
	1 Form C	AgCdO AgNi	NO: 5A 250VAC/30VDC at 85˚C NC: 3A 250VAC/30VDC at 85˚C

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

ORDERING INFORMATION

	HF38F /	012	-H	S	L	T	(XXX)
Type							
Coil voltage	3, 5, 6, 9, 12, 18, 24, 48VDC						
Contact arrangement	**H:** 1 Form A	**Z:** 1 Form C					
Construction [1]	**S:** Plastic sealed	**Nil:** Flux proofed					
Coil power	**L:** Sensitive	**Nil:** Standard					
Contact material	**T:** $AgSnO_2$	**3:** AgNi	**Nil:** AgCdO				
Customer special code							

Notes: 1) Under the ambience with dangerous gas like H_2S, SO_2 or NO_2, plastic sealed type is recommended; Please test the relay in real applications.
If the ambience allows, flux proofed type is preferentially recommended.
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

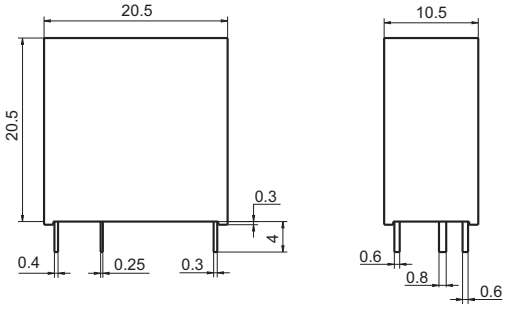
Unit: mm

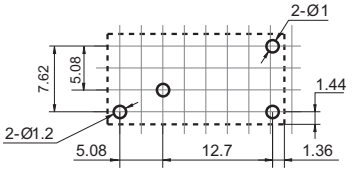
Outline Dimensions

Wiring Diagram
(Bottom view)

PCB Layout
(Bottom view)

1 Form A

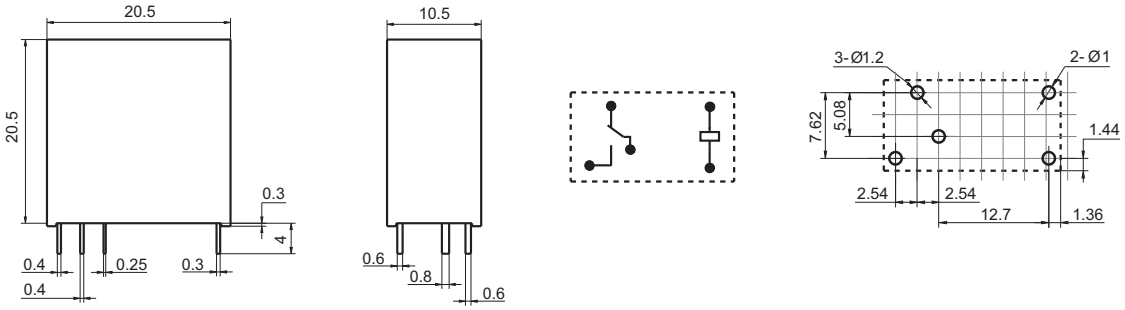




OUTLINE DIMENSIONS, WIRING DIAGRAM AND PC BOARD LAYOUT

Unit: mm

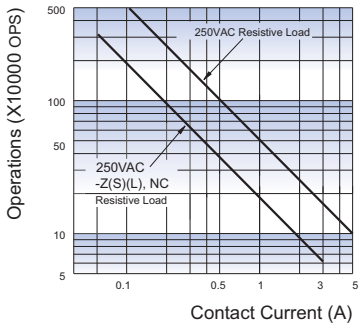
1 Form C



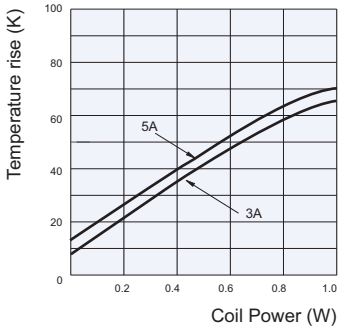
Remark: 1) In case of no tolerance shown in outline dimension: outline dimension ≤1mm, tolerance should be ±0.2mm; outline dimension >1mm and ≤5mm, tolerance should be ±0.3mm; outline dimension >5mm, tolerance should be ±0.4mm.
2) The tolerance without indicating for PCB layout is always ±0.1mm.
3) The width of the gridding is 2.54mm.

CHARACTERISTIC CURVES

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.