HF8 SUBMINIATURE INTERMEDIATE POWER RELAY

c UL us
File No.:E134517

VDE
File No.:40025189

Features

- 4kV impulse withstand voltage (between coil and contacts)
- 1 Form A and 1 Form C configurations
- Subminiature, high sensitive, PCB layout
- Plastic sealed type for automatic wave soldering
- UL insulation system: Class F available
- Environmental friendly product (RoHS compliant)
- Outline Dimensions: (21.3 x 16.2 x 14.4) mm

CONTACT DATA

Contact arrangement	1A, 1C
Contact resistance	100mΩ max.(at 1A 24VDC)
Contact material	AgNi
Contact rating (Res. load)	HF8: 6A 300VAC/28VDC HF8A: 6A 277VAC/30VDC
Max. switching voltage	300VAC / 30VDC
Max. switching current	6A
Max. switching power	1800VA / 300W
Mechanical endurance	1 x 10^7 OPS
Electrical endurance	Plastic sealed:1 x 10^4 OPS Flux proofed, Standard type:1 x 10^5 OPS Flux proofed, Sensitive type:5 x 10^4 OPS (NO, 6A 300VAC, Resistive load, Room temp. 1s on 9s off)

CHARACTERISTICS

Insulation resistance		100MΩ (at 500VDC)
Dielectric strength	Between coil & contacts	2000VAC 1min
	Between open contacts	750VAC 1min
Operate time (at nomi. volt.)		6ms max.
Release time (at nomi. volt.)		3ms max.
Humidity		5% to 85% RH
Ambient temperature		-55°C to 90°C
Shock resistance	Functional	98m/s²
	Destructive	980m/s²
Vibration resistance		10Hz to 55Hz 1.5mm DA
Termination		PCB
Unit weight		Approx. 11g
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.
3) UL insulation system: Class F, Class B, Class A.

COIL

Coil power	Standard: Approx. 450mW (48VDC: Approx. 600mW) Sensitive: Approx. 330mW

COIL DATA at 23°C

Standard type

Nominal Voltage VDC	Pick-up Voltage VDC max.	Drop-out Voltage VDC min.	Max. Voltage VDC *	Coil Resistance Ω
3	2.25	0.15	3.90	20 x (1±10%)
5	3.75	0.25	6.50	56 x (1±10%)
6	4.50	0.30	7.80	80 x (1±10%)
9	6.75	0.45	11.7	180 x (1±10%)
12	9.00	0.60	15.6	320 x (1±10%)
18	13.5	0.90	23.4	720 x (1±10%)
24	18.0	1.20	31.2	1280 x (1±10%)
48	36.0	2.40	62.4	3800 x (1±10%)

Sensitive type

Nominal Voltage VDC	Pick-up Voltage VDC max.	Drop-out Voltage VDC min.	Max. Voltage VDC *	Coil Resistance Ω
3	2.25	0.15	3.90	28 x (1±10%)
5	3.75	0.25	6.50	80 x (1±10%)
6	4.50	0.30	7.80	110 x (1±10%)
9	6.75	0.45	11.7	250 x (1±10%)
12	9.00	0.60	15.6	440 x (1±10%)
18	13.5	0.90	23.4	1000 x (1±10%)
24	18.0	1.20	31.2	1780 x (1±10%)
48	36.0	2.40	62.4	7120 x (1±10%)

Notes: 1) When requiring pick-up voltage < 75% of nominal voltage, special order allowed.
2) *Maximum voltage refers to the maximum voltage which relay coil could endure in a short period of time.

SAFETY APPROVAL RATINGS

UL/CUL	**Medium Duty** HF8-1CH/1AH	6A 28VDC 6A 300VAC
	General Duty HF8-1C/1A	2A 28VDC 2A 300VAC 3A 120VAC
	HF8A	6A 30VDC(NO/NC) 6A 277VAC(NO/NC)
VDE	HF8....A	2.5A 250VAC COSØ=0.4 2.5A 250VAC COSØ=0.5 5A 250VAC COSØ=1 6A 250VAC COSØ=1

Notes: 1) All values unspecified are at room temperature.
2) Only typical loads are listed above. Other load specifications can be available upon request.

ORDERING INFORMATION

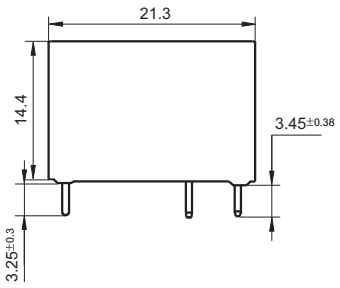
	HF8 HF8A	-1C	H	12	-D	S	E	F	(XXX)
Type	**HF8:** Standard type **HF8A:** Low cost type								
Contact arrangement:		**1A:** 1 Form A **1C:** 1 Form C							
Contact capacity			**H**: Medium Duty (6A) **Nil**: General Duty (3A/2A)						
Coil voltage				3, 5, 6, 9, 12, 18, 24, 48VDC					
Coil voltage form					**D**: DC				
Coil power						**S**: Sensitive	**Nil**: Standard		
Construction [1]							**E**: Plastic sealed	**Nil**: Flux proofed	
Insulation standard								**F**: Class F **Nil**: Class B	**A**: Class A (VDE version, Only for HF8-1AH/1CH)
Special code[3]									**XXX:** Customer special requirement **Nil:** Standard

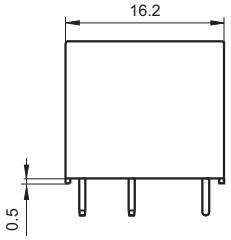
Notes: 1) Under the ambience with dangerous gas like H_2S, SO_2 or NO_2, plastic sealed type is recommended; Please test the relay in real applications. If the ambience allows, flux proofed type is preferentially recommended.
2) Contact is recommended for suitable condition and specifications if water cleaning or surface process is involved in assembling relays on PCB.
3) The customer special requirement express as special code after evaluating by Hongfa.

OUTLINE DIMENSIONS, WIRING DIAGRAM AND PC BOARD LAYOUT

Unit: mm

Outline Dimensions

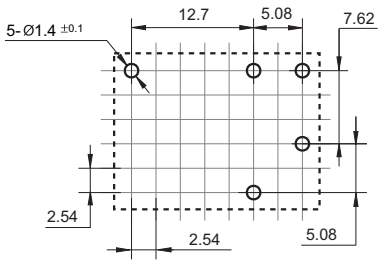




OUTLINE DIMENSIONS, WIRING DIAGRAM AND PC BOARD LAYOUT

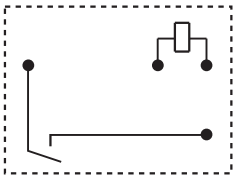
Unit: mm

PCB Layout
(Bottom view)

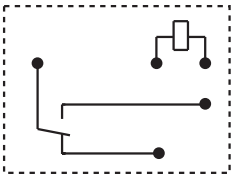


Wiring Diagram
(Bottom view)

1 Form A



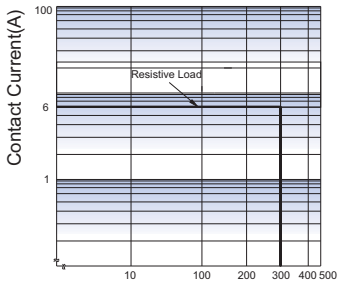
1 Form C



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.
4) Tin-dipped joint is tolerable after terminal tin-dipping as long as the termial length including the joint is less than 4.0mm.

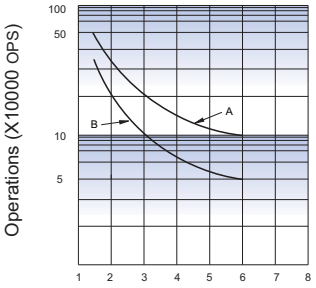
CHARACTERISTIC CURVES

MAXIMUM SWITCHING POWER



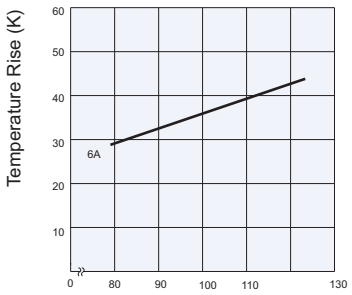
Contact Voltage (V)

ENDURANCE CURVE



Contact Current (A)

COIL TEMPERATURE RISE



Percentage Of Nominal Coil Voltage

Notes:
1) Curve A: HF8-1CH Standard type
Curve B: HF8-1CH Sensitive type
2) Test conditions:
NO, 6A 300VAC, Resistive load,
Flux proofed, Room temp.
1s on 9s off

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.