

HF8

SUBMINIATURE INTERMEDIATE POWER RELAY



File No.:E134517



File No.:40001772



File No.:CQC02001001942



Features

- 10A switching capability
- Class F insulation standard
- 1 Form A and 1 Form C configurations
- Subminiature, high sensitive, PCB layout
- Wash tight type for automatic wave soldering
- Environmental friendly product (RoHS compliant)
- Outline Dimensions: (21.5 x 16.5 x 14.6) mm

CONTACT DATA

Contact arrangement	1A, 1C
Contact resistance	100mΩ (at 1A 24VDC)
Contact material	AgNi, AgCdO
Contact rating (Res. load)	Medium:6A 300VAC/28VDC Heavy:10A 125VAC/24VDC
Max. switching voltage	300VAC / 28VDC
Max. switching current	10A
Max. switching power	1800VA / 240W
Mechanical endurance	1 x 10 ⁷ OPS
Electrical endurance	1 x 10 ⁵ OPS

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	98% RH	
Ambient temperature	Class B	-55°C to 90°C
	Class F	-55°C to 115°C
Shock resistance	Functional	100m/s ² (10g)
	Destructive	1000m/s ² (100g)
Vibration resistance	10Hz to 55Hz 1.5mm DA	
Termination	PCB	
Unit weight	Approx. 8g	
Construction	Wash tight, 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: 450mW; Sensitive: 330mW
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COIL DATA

at 23°C

Medium Duty (6A)

Nominal Voltage VDC	Pick-up Voltage VDC	Drop-out Voltage VDC	Max. Allowable Voltage VDC	Coil Resistance Ω
1.5	1.13	0.075	1.95	5 x (1±10%)
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%)



HONGFA RELAY
ISO9001、ISO/TS16949、ISO14001、OHSAS18001 CERTIFIED

2007 Rev. 2.00

COIL DATA

at 23°C

Heavy Duty (10A)

Nominal Voltage VDC	Pick-up Voltage VDC	Drop-out Voltage VDC	Max. Allowable Voltage VDC	Coil Resistance Ω
1.5	1.20	0.075	1.95	5 x (1±10%)
3	2.40	0.15	3.90	20 x (1±10%)
5	4.00	0.25	6.50	56 x (1±10%)
6	4.80	0.30	7.80	80 x (1±10%)
9	7.20	0.45	11.7	180 x (1±10%)
12	9.60	0.60	15.6	320 x (1±10%)
18	14.4	0.90	23.4	720 x (1±10%)
24	19.2	1.20	31.2	1280 x (1±10%)
48	38.4	2.40	62.4	3800 x (1±10%)

Sensitive Type

Nominal Voltage VDC	Pick-up Voltage VDC	Drop-out Voltage VDC	Max. Allowable Voltage VDC	Coil Resistance Ω
1.5	0.98	0.075	1.95	7 ± 10%
3	1.95	0.15	3.90	28 ± 10%
5	3.25	0.25	6.50	80 ± 10%
6	3.90	0.30	7.80	110 ± 10%
9	5.85	0.45	11.7	250 ± 10%
12	7.80	0.60	15.6	440 ± 10%
18	11.7	0.90	23.4	1000 ± 10%
24	15.6	1.20	31.2	1780 ± 10%
48	31.2	2.40	62.4	7120 ± 10%

Notes: When requiring pick-up voltage < 75% of nominal voltage, special order allowed.

SAFETY APPROVAL RATINGS

UL & CUR	Medium Duty HF8-1CH/1AH	6A 28VDC 6A 300VAC 1/8 HP 120/240VAC 0.8A 240VAC 1.5A 120VAC 3.8A 120VAC 1.9A 240VAC
	Heavy Duty HF8-1CT/1AT	10A 24VDC 10A 125VAC 10A 250VAC 1/4 HP 120/125VAC 1/2 HP 250VAC 7A 277VAC
	HF8A	6A 277VAC (NO/NC) 6A 30VDC (NO/NC)
VDE	HF8.... A (VDE version)	6A 250VAC COS ϕ =1 5A 250VAC COS ϕ =1 2.5A 250VAC COS ϕ =0.4 2.5A 250VAC COS ϕ =0.5

Notes: 1) All Values at 20°C.

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

ORDERING INFORMATION

		HF8		-1C	H	12	-D	S	E	F	A	(XXX)
		HF8A										
Type	HF8: Imported material HF8A: Low cost											
Contact arrangement:	1A: 1 Form A 1C: 1 Form C											
Contact capacity	H: Medium Duty 6A (Only for AgNi) T: Heavy Duty 10A (Only for AgCdO)											
Coil voltage	1.5, 3, 5, 6, 9, 12, 18, 24, 48VDC											
Coil voltage form	D: DC											
Coil power	S: Sensitive		Nil: Standard									
Construction ¹⁾	E: Wash tight		Nil: Flux proofed									
Insulation standard	F: Class F		Nil: Class B									
VDE	A: VDE version (Only for HF8, 6A)			Nil: No VDE approval								
Customer special code ²⁾ (Only for special requirements)	e.g. (551) stands for RoHS compliant (Cadmium containing contacts) (555) stands for RoHS compliant (Cadmium-free contacts)											

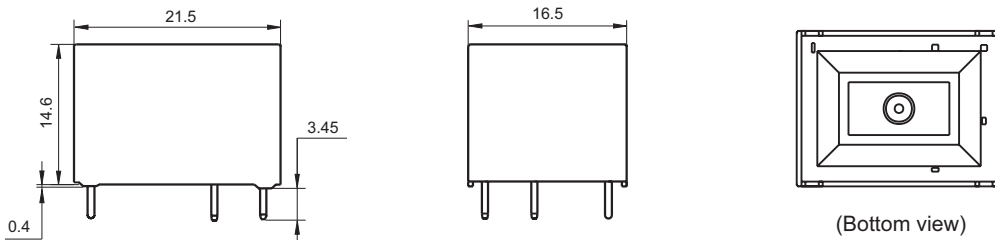
Notes: 1) Under the ambience with dangerous gas like H₂S, SO₂ or NO₂, wash tight type is recommended; please test the relay in real applications. If the ambience allows, flux proofed is preferentially recommended.

2) HF8 is an environmental friendly product. Please mark a special code (555) or (551) when ordering. (551) stands RoHS compliant with Cadmium contact; (555) stands for RoHS compliant with Cadmium-free contact.

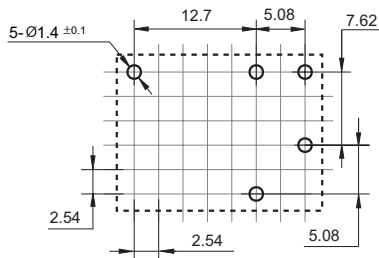
OUTLINE DIMENSIONS, WIRING DIAGRAM AND PC BOARD LAYOUT

Unit: mm

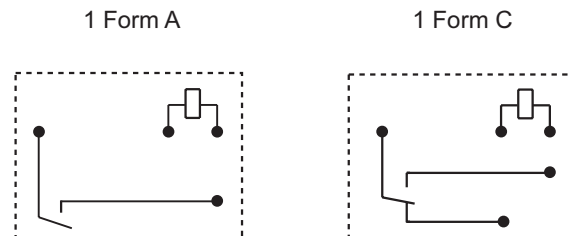
Outline Dimensions



PCB Layout
(Bottom view)



Wiring Diagram
(Bottom view)



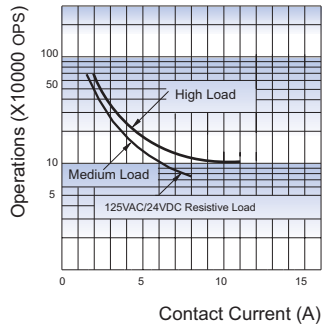
Remark: 1) In case of no tolerance shown in outline dimension: outline dimension $\leq 1\text{mm}$, tolerance should be $\pm 0.2\text{mm}$; outline dimension $> 1\text{mm}$ and $\leq 5\text{mm}$, tolerance should be $\pm 0.3\text{mm}$; outline dimension $> 5\text{mm}$, tolerance should be $\pm 0.4\text{mm}$.

2) The tolerance without indicating for PCB layout is always $\pm 0.1\text{mm}$.

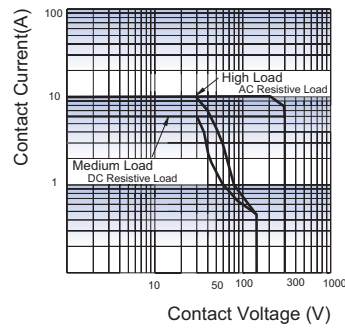
3) The width of the gridding is 2.54mm.

CHARACTERISTIC CURVES

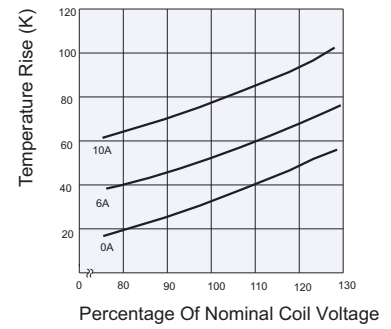
ENDURANCE CURVE



MAXIMUM SWITCHING POWER



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.

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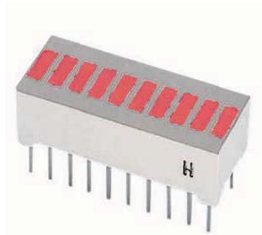
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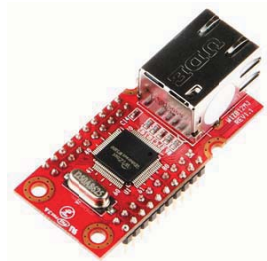
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LCD+Keyboard Shield



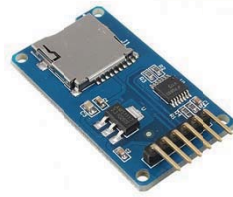
10-Segments LED Bar Display



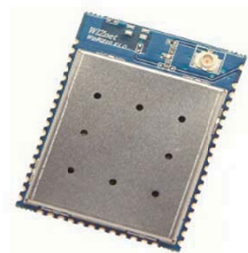
Ethernet Module



Arduino Uno



MicroSD Breakout Board



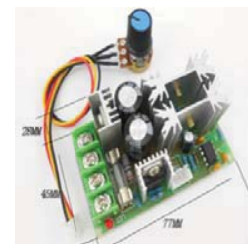
WiFi Module



20x4 LCD Display Module



Stepper Motor Driver



PWM Motor Speed Controller



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