HFE19-60 MINIATURE HIGH POWER LATCHING RELAY



Features

- 60A Latching relay
- Electrical endurance 5000ops
- According to IEC62055-31:UC1
- Contact resistance ≤1mΩ

RoHS compliant

CONTACT DATA

Contact arrangement	1A,1B
Contact resistance [1]	Typical value: [2] ≤1mΩ(60A)
Contact material	$AgSnO_2$
Contact rating	See “electrical endurance”
Max. switching voltage	276VAC
Max. switching current	60A
Max. switching power	16560W
Mechanical endurance	$1x10^5$ops

Notes:1) The data shown above are initial values.
2) Typical value: Sampling quantity for contact resistance shall not less than 20 pcs, take the average value from 5 continous measurements for each sample.

CHARACTERISTICS

Insulation resistance		1000MΩ (at 500VDC)
Dielectric strength	Between coil and contact	4000VAC 1min
	Between open contacts	1500VAC 1min
Creepage distance		>8mm
Set time (at nomi. volt.)		20ms max.
Reset time (at nomi. volt.)		20ms max.
Shock resistance	Functional	98m/s²
	Destructive	980m/s²
Vibration resistance		10Hz to 55Hz 1.5mm DA
Humidity		5% to 85% RH
Ambient temperature		-40℃ to 85℃
Termination	Coil termination	PCB&QC
	Load termination	QC
Unit weight		Approx. 50g
Construction		Dust protected

Notes: The data shown above are initial values.

COIL

Rated power	Single coil latching:Approx.1.0W Double coils latching: Approx.2.0W

COIL DATA 23℃

Single coil latching

Nominal Voltage VDC	Set / Reset Voltage [1)2)] VDC	Pulse Duration (Recommended) ms	Coil Resistance x (1±10%) Ω
6	≤4.2	50~100	36
9	≤6.3	50~100	80
12	≤8.4	50~100	145
24	≤16.8	50~100	575
48	≤33.6	50~100	2270

Double coils latching

Nominal Voltage VDC	Set / Reset Voltage [1)2)] VDC	Pulse Duration (Recommended) ms	Coil Resistance x (1±10%) Ω
6	≤4.2	50~100	18+18
9	≤6.3	50~100	40+40
12	≤8.4	50~100	72+72
24	≤16.8	50~100	285+285
48	≤33.6	50~100	1135+1135

Notes:1) The data shown above are initial values.
2) The above values are used as incoming inspection standards, and the recommended driving voltage is 1~1.5 times of the rated voltage.

ELECTRICAL ENDURANCE

Voltage (Uc)	Current (Ic)	Power Factor	Close Open time (s)	Electrical endurance (ops)
240VAC	60A	COSØ=1	10:20	5000

Notes: 1) Electrical endurance meet IEC62055-31 test requirement,do the inductive load test after the resistive load test.
2) Only some typical ratings of UC are listed above, if more special ratings required, please contact us.

ORDERING INFORMATION

	HFE19	-60/	12	D	T	2	1	-R	(445)	(XXX)

Type	
Contact rating	**60:** 60A
Coil voltage	6,9,12,24,48 VDC
Contact arrangement [1]	**D:** 1 Form B **H:** 1 Form A
Contact material	**T:** $AgSnO_2$
Coil angle form	**2:** Distance 5mm; No bowleg **4:** Distance 5mm; L-bowleg
Coil type	**1:** Single coil latching **2:** Double coils latching
Polarity	**R:** Reverse polarity **Nil:** Standard polarity
Special code	**(445):** Normal type
Special code [2) 3)]	**XXX:** Customer special requirement

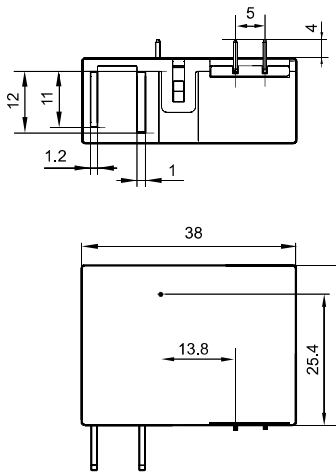
Notes: 1) H means that relay is on the "reset" status when delivery; D means that relay is on the "set" status when delivery. If no speical required by customer, we will keep the relay on the "set" status when delivery.
2) we can make special design according to customer's requirement.
3) The customer special requirement express as special code after evaluating by Hongfa.

OUTLINE DIMENSIONS, WIRING DIAGRAM,PCB LAYOUT

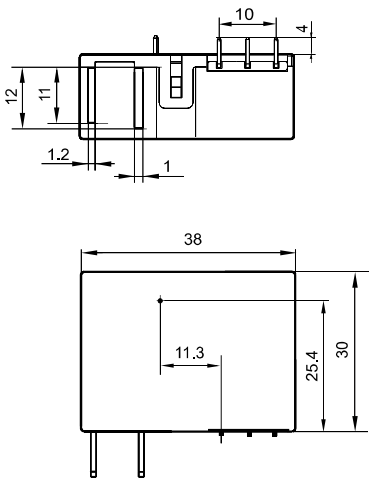
Unit: mm

Outline Dimensions

Single coil latching



Double coils latching



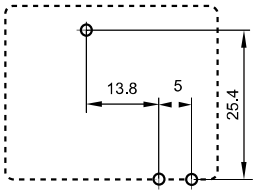
Remark: 1) In case of no tolerance shown in outline dimension: outline dimension ≤1mm, tolerance should be ±0.2mm; outline dimension >1mm and ≤5mm, tolerance should be ±0.3mm; outline dimension >5mm, tolerance should be ±0.4mm.

OUTLINE DIMENSIONS, WIRING DIAGRAM,PCB LAYOUT

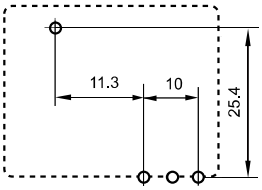
Unit: mm

PCB LAYOUT(Bottom view)

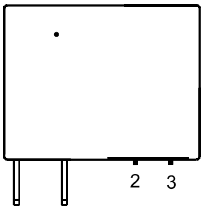
Single coil latching

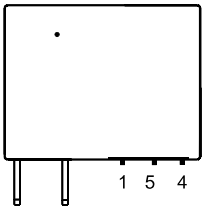


Double coils latching

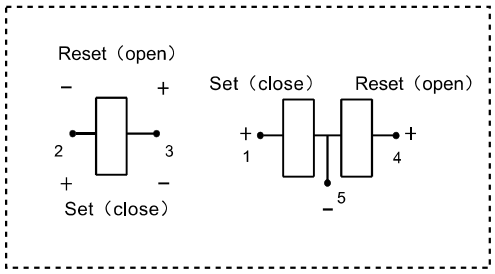


Wiring Diagram(Bottom view)

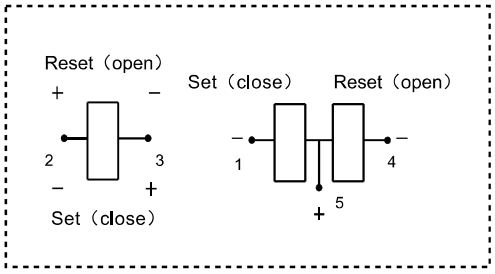




Standard polarity



Reverse polarity



CAUTIONS

1. Relay is on the “reset” or "set" status when being released from stock, with the consideration of shock risen from transit and relay mounting, relay would be changed to “set” or "reset" status, therefore, when application (connecting the power supply), please reset the relay to “set” or “reset” status on request.
2. Do not energize voltage to “set” coil and “reset” coil simultaneously. And also long energized time (more than 1 min) should be avoided.
3. Normally the load terminals are not suitable for reflow solder, wave solder or tin solder, we suggest use spot welding. Load terminals shall be prevented from assembly stress, or freely move.
4. Relays used for metering measuring applications are usually made with dust proof structure, while most relays could be made specially per customer's specific requirements.No longer than 6 months' storage time is recommended for this kind of relay, and please pay attention to the storage environment. To ensure contact reliability, we will keep contact status be closed when delivery if no special required by customer.

Disclaimer

The specification is for reference only. 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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