HFE19-100 MINIATURE HIGH POWER LATCHING RELAY

Features

- 100A Latching relay
- Electrical endurance 10000ops
- According to IEC62055-31:UC2
- Contact resistence ≤0.35mΩ

CONTACT DATA

Contact arrangement	1A, 1B
Contact resistence 1)	Typ.:0.35mΩ max.(at 100A) 2)
Contact material	$AgSnO_2$
Contact rating	100A 220VAC
Max. switching voltage	253VAC
Max. switching current	100A
Rated. switching power	22000VA
Mechanical endurance	1 x 10^5OPS

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 & contacts	4000VAC 1min
	Between open contacts	2000VAC 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. 100g
Construction		Dust protected

Notes: The data shown above are initial values.

COIL

Coil power	Single coil latching: Approx. 2.4W Double coils latching: Approx. 4.8W

COIL DATA at 23℃

Single coil latching

Nominal Voltage VDC	Set / Reset Voltage VDC 1) max.	Pulse Duration (Recommended) ms	Coil Resistance x (1±10%) Ω
9	≤7.2	50~100	34
12	≤9.6	50~100	60
24	≤19.2	50~100	240
48	≤38.4	50~100	960

Double coils latching

Nominal Voltage VDC	Set / Reset Voltage VDC 1) max.	Pulse Duration (Recommended) ms	Coil Resistance x (1±10%) Ω
9	≤7.2	50~100	17+17
12	≤9.6	50~100	30+30
24	≤19.2	50~100	120+120
48	≤38.4	50~100	480+480

Notes:1) The data shown above are initial values ; recommended driving voltage is 1~1.5times of rated voltage.

ELECTRICAL ENDURANCE

UC Class	Voltage (Uc)	Current (Ic)	Power factor	Close Open time (s)	Electrical endurance (OPS)		Short circuit current (10ms)
415 (UC1)	220VAC	80A	COSØ=1	10:20	3000	Total:6000	3000A Peak value
		10A	COSØ=0.4		3000		
416 (UC2)		80A	COSØ=1		5000	Total:10000	Making: 2500A Carrying: 2500A
		80A	COSØ=0.5		5000		

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

ORDERING INFORMATION

HFE19 -100/ 12 D T 2 1 -R (XXX)

Type	
Contact rating	**100:** 100A
Coil voltage	9, 12, 24, 48VDC
Contact form [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
Sort	**1:** Single coil latching **2:** Double coils latching
Polarity	**R:** Negative polarity **Nil:** Positive polarity
Special code [2) 4)]	**XXX:** Customer special requirement **Nil:** Standard(See electrical endurance)

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) UC1: Meet the UC1 requirements on IEC62055-31;Relays are able to pass the 30Imax short circuit.
UC2: Meet the UC2 requirements on IEC62055-31.

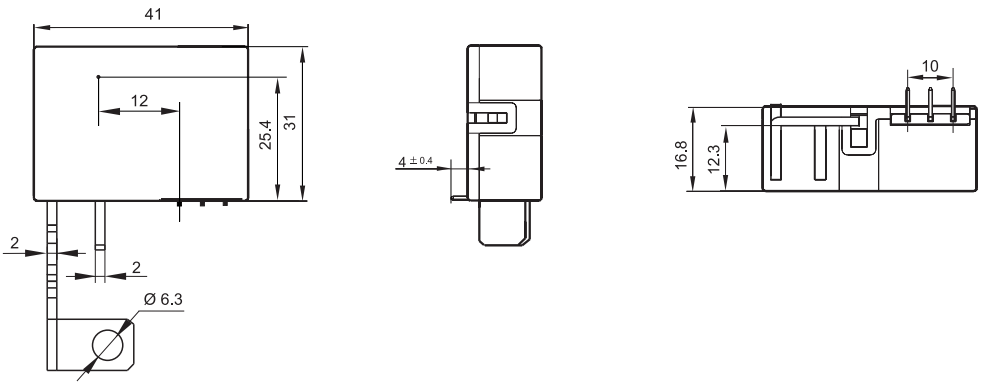
3) We can make special design according to customer's requirement,Please see the typical design.

4) The customer special requirement express as special code after evaluating by Hongfa. e.g. (415) stands for UC1; e.g. (416) stands for UC2.

OUTLINE DIMENSIONS, WIRING DIAGRAM AND PC BOARD LAYOUT

Unit: mm

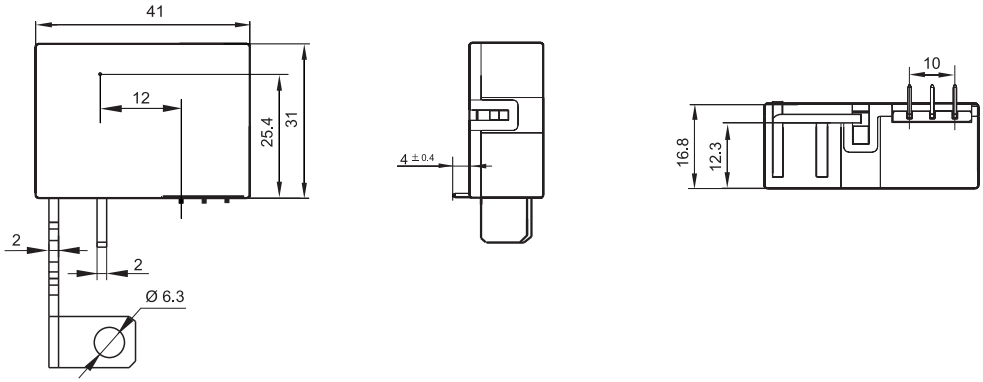
Outline Dimensions



OUTLINE DIMENSIONS, WIRING DIAGRAM AND PC BOARD LAYOUT

Unit: mm

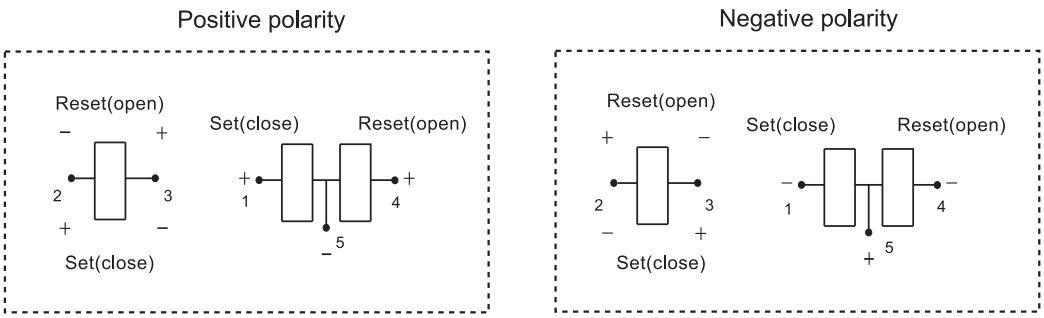
Outline Dimensions



PCB Layout (Bottom view)

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.



Notice:

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.