HFE51 SUBMINIATURE INTERMEDIATE POWER RELAY

Features

- 150A Latching relay
- Electrical endurance 10000ops
- According to IEC62052-31:UC3
- Contact resistance ≤0.35mΩ

RoHS compliant

CONTACT DATA

Contact arrangement	1A(Dual contact),1B(Dual contact)
Contact resistance 1)	Typical value: 2) ≤0.35mΩ(150A)
Contact material	$AgSnO_2$
Contact rating	See “electrical endurance”
Max. switching voltage	250VAC
Max. switching current	150A
Max. switching power	37500VA
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(500VDC)
Dielectric Strength	Between coil and contact	4000VAC (1min)
	Between open contacts	2000VAC (50/60H 1min)
Electrical distance		8.4mm
Set time (at nomi. volt.)		20ms max.
Reset time (at nomi. volt.)		20ms max.
Shock Resistance	Functional	98 m/s^2
	Destructive	980 m/s^2
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.110g
Construction		Dust protected

Notes: The data shown above are initial values.

COIL

Rated power	Single coils: Approx. 3W Double coils: Approx. 6W

COIL DATA at 23℃

Single coil latching

Nominal Voltage VDC	Set / Reset Voltage 1)2) VDC	Pulse Duration (Recommended) ms	Coil Resistance x (1±10%) Ω
6	≤4.8	50~100	12
9	≤7.2	50~100	27
12	≤9.6	50~100	48
24	≤19.2	50~100	192
48	≤38.4	50~100	768

Double coils latching

Nominal Voltage VDC	Set / Reset Voltage 1)2) VDC	Pulse Duration (Recommended) ms	Coil Resistance x (1±10%) Ω
6	≤4.8	50~100	6+6
9	≤7.2	50~100	13.5+13.5
12	≤9.6	50~100	24+24
24	≤19.2	50~100	96+96
48	≤38.4	50~100	384+384

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)
250VAC	120A	COSØ=1	7.5:7.5	5500
220VAC	120A	COSØ=1	10:20	5000
		COSØ=0.5		5000

Notes: 1) Electrical endurance meet IEC62052-31 test requirement,do the inductive load test after the resistive load test.
2) The coil is driven at rated voltage.

ORDERING INFORMATION

	HFE51	12	-SH	T	1	-R	(XXX)

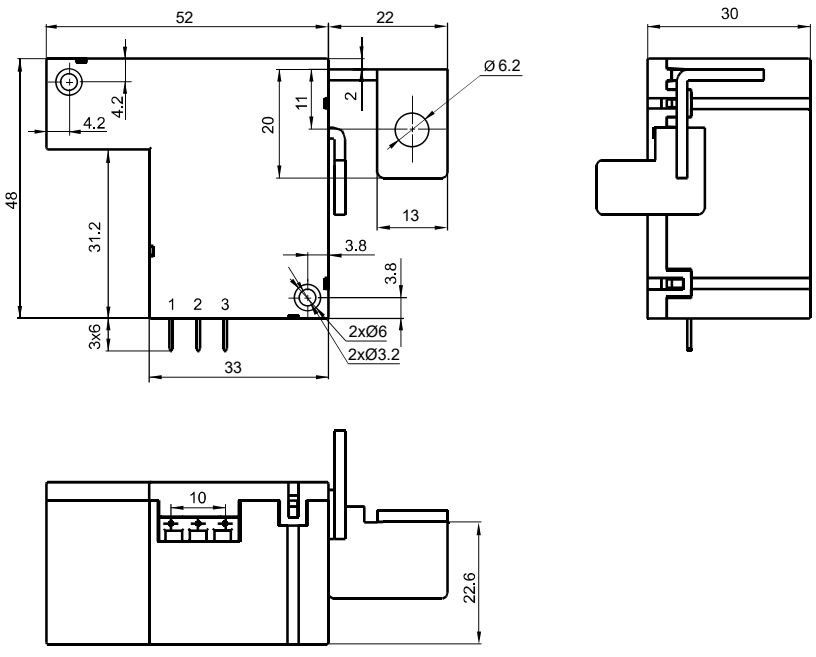
Type	
Coil voltage	6, 9, 12, 24, 48VDC
Contact arrangement 1)	**SH:** 1 Form A (Dual contact) **SD:** 1 Form B (Dual contact)
Contact material	**T:** $AgSnO_2$
Coil type	**1:** Single coil latching **2:** Double coils latching
Polarity	**R:** Reverse polarity **Nil:** Standard polarity
Special code	**XXX:** Customer special requirement

Notes: 1) SH means that relay is on the "reset" status when delivery; SD 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.

OUTLINE DIMENSIONS AND WIRING DIAGRAM

Unit: mm

Outline Dimensions

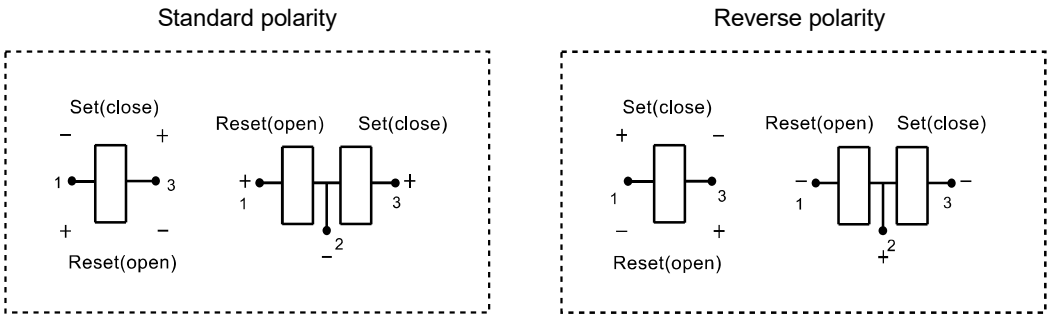


Remark: 1) In case of no tolerance shown in outline dimension: outline dimension ≤1mm, tolerance should be ±0.2mm; outline dimension >1mm and ≤5mm, tolerance should be ±0.3mm; outline dimension >5mm, tolerance should be ±0.4mm.

OUTLINE DIMENSIONS AND WIRING DIAGRAM

Unit: mm

Wiring Diagram



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.