HFE53 LATCHING RELAY FOR OVER AND UNDER VOLTAGE PROTECTOR

Features

- Switching capacity of 100A(resistive)
- Overload:
  1 Form A(single contact): switching for 6 times under overload condition with current of 63A*6
  1 Form A(Dual contact): switching for 6 times under overload condition with current of 100A*6
- Short circuit current capacity:
  For single contact set, 6000A with 0.75mm silver wire
  For double contact sets, 6000A with 0.95mm silver wire
- Electrical endurance:
  Overvoltage at 275VAC/100A for 2000 cycles
  Undervoltage at 160VAC/100A for 2000 cycles

RoHS compliant

CONTACT DATA

Contact arrangement	1A
Contact resistance 1)	≤2mΩ(100A)
Contact material	$AgSnO_2$
Contact rating (Res. load)	100A 250VAC(COSØ=1)6 x 10^3ops
Max. switching voltage	380VAC
Max. switching current	100A
Max. switching power	38000VA
Mechanical endurance	1 x 10^5ops
Electrical endurance	See "contact rating"

Notes: 1) The data shown above are initial values.

CHARACTERISTICS

Insulation resistance		1000MΩ(500VDC)
Dielectric strength	Between coil & contacts	4000VAC 1min
	Between open contacts	H:3000VAC(50/60Hz,1min) SH:2500VAC(50/60Hz,1min)
Creepage distance		8.4mm
Operate time(NominalVoltage)		≤20ms
Release time(NominalVoltage)		≤20ms
Bounce time		≤2ms
Shock resistance	Functional	98m/s²
	Destructive	980m/s²
Vibration resistance		10Hz ~ 55Hz 1.5mm DA
Humidity		5% ~ 85% RH
Ambient temperature		-40℃~ 85℃
Termination	Coil terminal	PCB、QC
	Load terminal	QC
Unit weight		Approx.50g
Construction		Plastic sealed

Notes: The data shown above are initial values.

COIL

Rated power	Single coil latching:2.5W Double coils latching:5.0W

COIL DATA 23℃

Single coil latching

Nominal Voltage VDC	Set / Reset Voltage 1)2) VDC	Pulse Duration ms	Coil Resistance x (1±10%) Ω
5	≤4.0	≥50	10
6	≤4.8	≥50	14.4
9	≤7.2	≥50	32.4
12	≤9.6	≥50	57.6
24	≤19.2	≥50	230.4
48	≤38.4	≥50	921.6

Double coils latching

Nominal Voltage VDC	Set / Reset Voltage 1)2) VDC	Pulse Duration ms	Coil Resistance x (1±10%) Ω
5	≤4.0	≥50	5+5
6	≤4.8	≥50	7.2+7.2
9	≤7.2	≥50	16.2+16.2
12	≤9.6	≥50	28.8+28.8
24	≤19.2	≥50	115.2+115.2
48	≤38.4	≥50	460.8+460.8

Notes:1) The data shown above are initial values.
2) The above set voltage, reset voltage are the test value for relay without load. Please use 1~1.5 times of rated voltage to drive the relay for your application.

ORDERING INFORMATION

	HFE53	/9	-H	7	T	2	-1	-R	(XXX)

Type	
Coil voltage	5,6,9,12,24,48 VDC
Contact arrangement [1]	**H:** 1 Form A(Single Contact) **SH:** 1 Form A(Dual contact)
Load input terminal	**7:** With external connector
Contact material	**T:** $AgSnO_2$
Coil terminal form	**2:** Without bending **4:** L-shaped bending
Coil type	**1:** Single coil latching **2:** Double coils latching
Polarity	**R:** Reverse polarity **Nil:** Standard polarity
Special code [2]	**XXX:** Customer special requirement **(459):**Coil pins with reverse enduction way

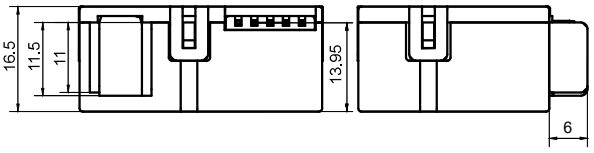
Notes: 1) H,SH means that relay is on the "reset" status when delivery.
2) The customer special requirement express as special code after evaluating by Hongfa.

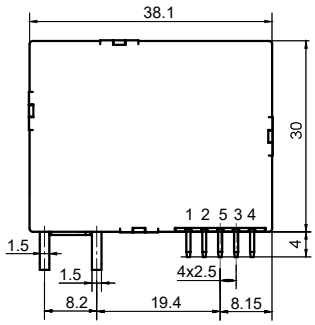
OUTLINE DIMENSIONS AND WIRING DIAGRAM

Unit: mm

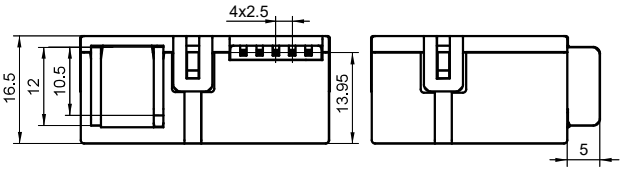
Outline Dimensions

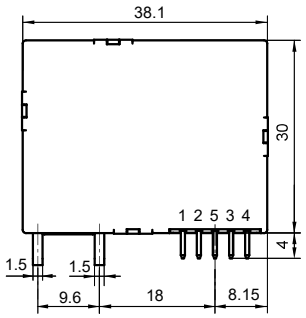
1 Form A(Single contact)
Forward direction of coil terminal





1 Form A(Dual contact)
Forward direction of coil terminal





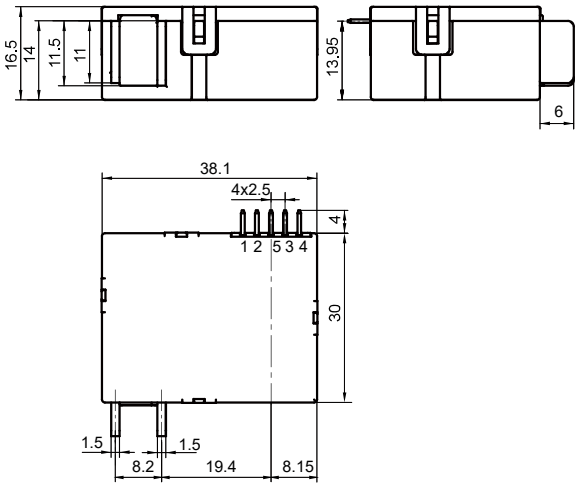
Remark: 1) In case of no tolerance shown in outline dimension: outline dimension ≤1mm, tolerance should be ±0.2mm; outline dimension >1mm and ≤5mm, tolerance should be ±0.3mm; outline dimension >5mm, tolerance should be ±0.4mm.
2) The tolerance without indicating for PCB layout is always ±0.1mm.
3) Please confirm with us for the detailed mounting method and external connector.

OUTLINE DIMENSIONS AND WIRING DIAGRAM

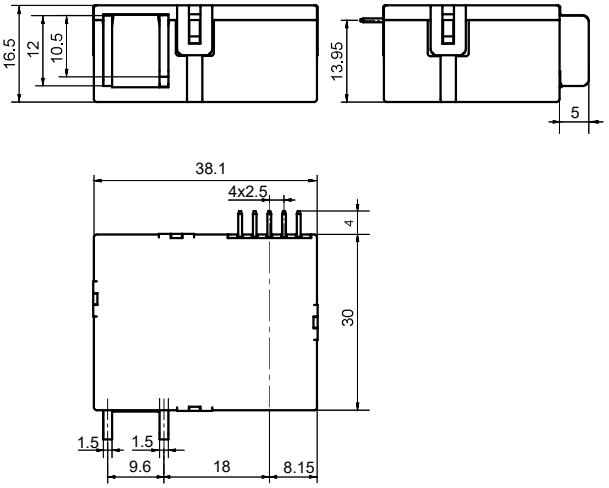
Unit: mm

Outline Dimensions

1 Form A(Single contact)
Reverse direction of coil terminal

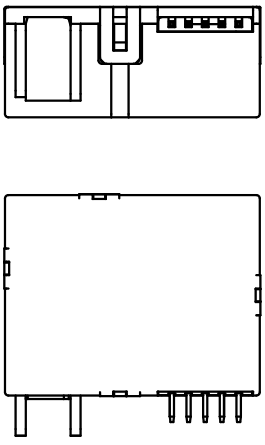


1 Form A(Dual contact)
Reverse direction of coil terminal

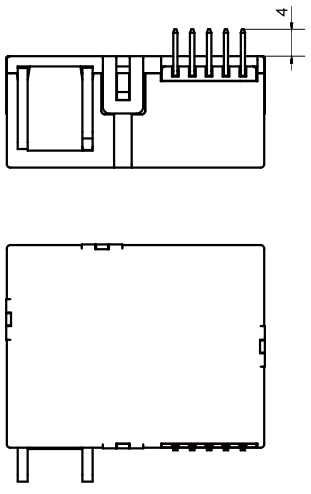


Coil Terminal Form

Without bending

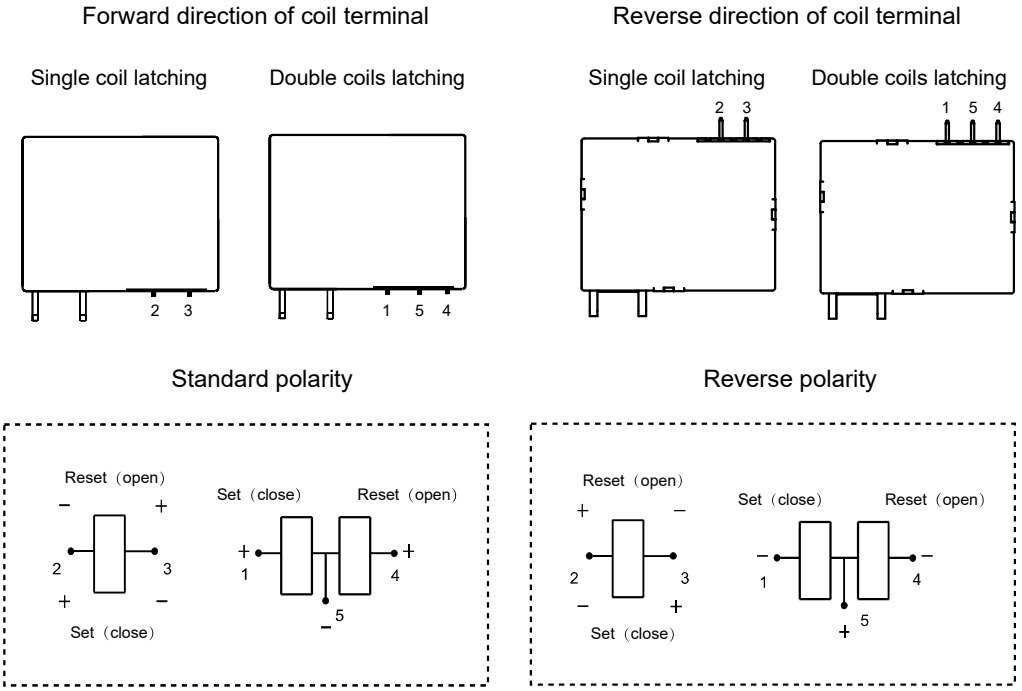


L-shaped bending



OUTLINE DIMENSIONS AND WIRING DIAGRAM

Wiring Diagram(Bottom view)



CAUTIONS

1. Latching relay is on the "reset" or "set" status when delivery, 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. In order to maintain "set" or "reset" status, energized voltage applied across the coil should reach the rated voltage, impulse width should be 5 times more than "set" or "reset" time. Do not energize voltage to "set" coil and "reset" coil simultaneously. And also long energized time (more than 1 min) should be avoided.
3. The terminals of relay without twisted copper wire can not be tin-soldered, can not be moved willfully.
4. Because of the dust proof structure, the recommended storage time shall not longer than 6 months, 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.