HFE15L   MINIATURE HIGH POWER LATCHING RELAY

C $\boxed{\text{UL}}$ US

File No.: E134517

$\boxed{\text{D}\cdot\text{E}}$

File No.: 40045248

CONTACT DATA

Contact arrangement	1A, 1B
Contact resistance [1]	20mΩ max.(at 1A 24VDC)
Contact material	AgSnO²
Contact rating	1H,1D: 20A 250VAC, 1×10^5OPS(Resistive) 25A 250VAC, 5×10^4OPS(Resistive) 10A 250VAC C=140uF, 3×10^4OPS(Capacitive) 10A 250VAC cosΦ=0.4, 3×10^4OPS(Inductive) 20A 30VDC, 3×10^4OPS(Resistive) 16A 250VAC, 1×10^5OPS(AC-1) 12.5A 400VAC, 1×10^5OPS(AC-1) 10A 277VAC, 6×10^3OPS (Electronic ballast)
Max. switching voltage	440VAC
Max. switching current	25A
Max. switching power	5000VA
Mechanical endurance	1×10^6OPS
Electrical endurance	See rated load

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

CHARACTERISTICS

Insulation resistance		1000MΩ (at 500VDC)
Dielectric strength	Between coil & contacts	4000VAC 1 min
	Between open contacts	1000VAC 1 min
Creepage distance		8mm
Impulse voltage		12KV min.
Operate time (at nomi. volt.)		15ms max.
Release time (at nomi. volt.)		15ms max.
Shock resistance	Functional	98m/s²
	Destructive	980m/s²
Vibration resistance		10Hz ~ 55Hz 1.5mm DA
Humidity		5% ~ 85% RH
Ambient temperature		-25℃ ~ 70℃
Termination		PCB
Unit weight		Approx.23g

Notes: The data shown above are initial values.

COIL

Coil power	Single coil latching: Approx. 0.7W Double coil latching: Approx. 1.5W

COIL DATA   at 23℃

Single coil latching

Nominal Voltage VDC	Set / Reset Voltage VDC 1) 2) max.	Pulse Duration ms min.	Coil Resistance x (1±10%)Ω
3	≤2.4	≥50	12.5
5	≤4.0	≥50	34.5
6	≤4.8	≥50	50
9	≤7.2	≥50	112.5
12	≤9.6	≥50	200
24	≤19.2	≥50	800
32	≤25.6	≥50	1460
48	≤38.4	≥50	3200

Double coils latching

Nominal Voltage VDC	Set / Reset Voltage VDC 1) 2) max.	Pulse Duration ms min.	Coil Resistance x (1±10%)Ω
3	≤2.4	≥50	2 x 6
5	≤4.0	≥50	2 x 17.5
6	≤4.8	≥50	2 x 25
9	≤7.2	≥50	2 x 54
12	≤9.6	≥50	2 x 100
24	≤19.2	≥50	2 x 400
32	≤25.6	≥50	2 x 680
48	≤38.4	≥50	2 x 1600

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.

HF· HONGFA RELAY
ISO9001, ISO/TS16949 , ISO14001, OHSAS18001, IECQ QC 080000 CERTIFIED

SAFETY APPROVAL RATINGS

VDE	1H,1D	Resistive: 20A 250VAC Fluorescent Lamp (Without compensation):10A 250VAC Fluorescent Lamp (With parallel compensation):10A 250VAC Incandescent Lamp: 2500W 250VAC
UL	1H,1D	Resistive: 20A 250VAC Electronic ballast: 10A 277VAC

Notes: Only typical loads are iisted above.other load specifications can be available upon request.

ORDERING INFORMATION

HFE15L -1 /12 -1H T -L2 R (XXX)

Type	**HFE15:** Standard **HFE15L:** Lamp control
Manual wwitch	**Nil:** None **-1:** With manual switch
Coil voltage	3,5,6,9,12,24,32,48 VDC
Contact form[1]	**1H: 1** Form A **1D: 1** Form B
Contact material	**T:** AgSnO$_2$
Sort	**L1:** Single coil latching **L2:** Double coils latching
Polarity	**R:** Negative polarity **Nil:** Positive polarity
Special code[2]	**XXX:** Customer special requirement **Nil:** Standard

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

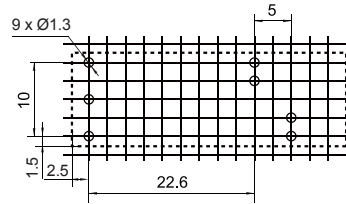## OUTLINE DIMENSIONS   Unit: mm

Outline Dimensions

Right Elevation
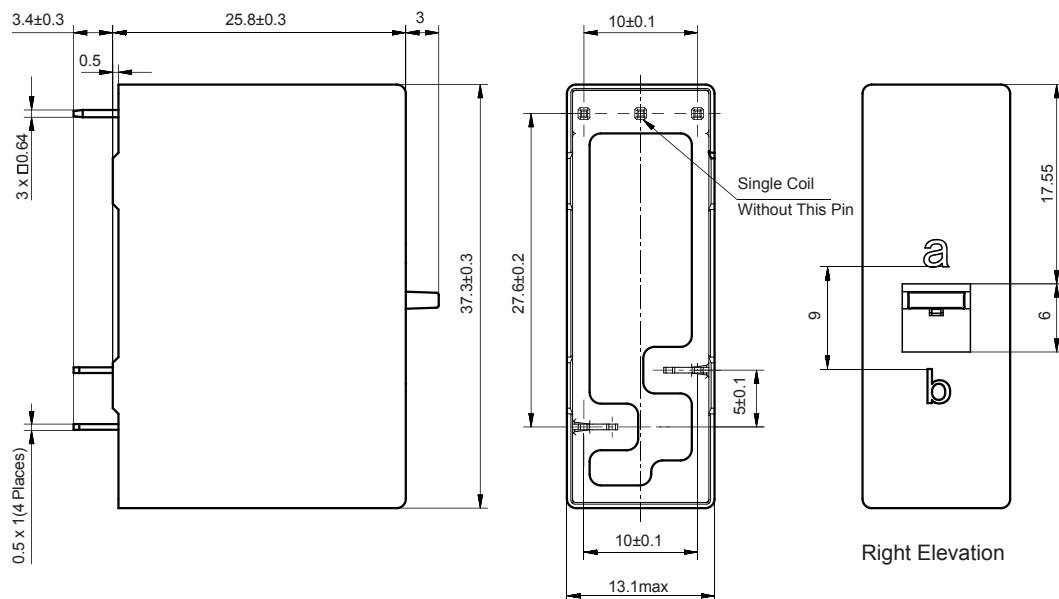
Remark:
1) In case of no tolerance shown in outline dimension: outline dimension ≤1mm, tolerance should be±0.2mm; outline dimension ＞1mm and ≤5mm, tolerance should be ±0.3mm; outline dimension ＞5mm, tolerance should be±0.4mm.
2) The length of pins does not include the length of the tin tip, and the length of the tin tip should not exceed 0.5mm after tin pick-up.
3) The tolerance without indicating for PCB layout is always ±0.1mm.
4) The width of the gridding is 2.54mm.

Wiring Diagram
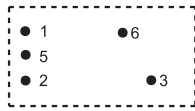
PCB Layout（Bottom view）

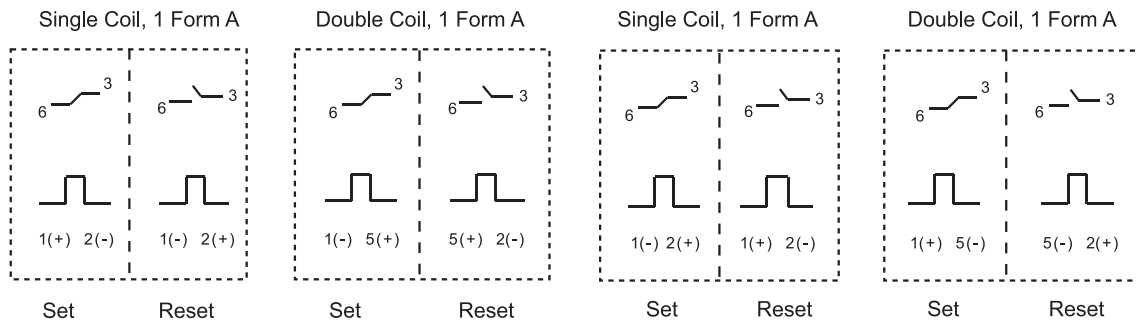**1** Form A

Contact position		
	6 3	6 3
Manual switch position	(a)	(b)

Positive Polarity

Negtive Polarity

Single Coil, 1 Form A

6 ⟍ 3	6 ⟍ 3
1(+) 2(-)	1(-) 2(+)
Set	Reset

Double Coil, 1 Form A

6 ⟍ 3	6 ⟍ 3
1(-) 5(+)	5(+) 2(-)
Set	Reset

Single Coil, 1 Form A

6 ⟍ 3	6 ⟍ 3
1(-) 2(+)	1(+) 2(-)
Set	Reset

Double Coil, 1 Form A

6 ⟍ 3	6 ⟍ 3
1(+) 5(-)	5(-) 2(+)
Set	Reset

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. In order to maintain "ret"or "reset"status, energized voltage to 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. When choose the relay with PCB termination, the recommended welding temperature range and duration is 240℃~260℃, 2s~5s; Please do not use the reflow welding method, if the reflow is really required, please contact our technicals; the normal recommeded wave soldering temperature is 250℃ within 2s.