



### Typical Applications

Anti-theft lock, Central door lock

### Features

- 15A switching capability
- Subminiature, standard PCB layout
- 1 Form A & 1 Form C contact arrangement
- Wash tight and Flux proofed types available
- RoHS & ELV compliant

## CHARACTERISTICS

Contact arrangement	1A, 1C
Voltage drop (initial) <sup>1)</sup>	Typ: 20mV (at 10A) Max.: 250mV (at 10A)
Max. continuous current <sup>2)</sup>	10A
Max. switching current	15A
Max. switching voltage	30VDC
Min. contact load	1A 6VDC
Electrical endurance	See "CONTACT DATA"
Mechanical endurance	1×10 <sup>7</sup> OPS (300OPS/min)
Initial insulation resistance	100MΩ (at 500VDC)
Dielectric strength <sup>3)</sup>	Between coil & contacts: 1500VAC Between open contacts: 750VAC
Operate time	Typ: 5ms Max.: 10ms (at nomi. vol.)

Release time	Typ: 3ms Max.: 10ms <sup>4)</sup>
Ambient temperature	-40°C to 85°C
Vibration resistance <sup>5)</sup>	10Hz to 55Hz 1.5mm DA
Shock resistance <sup>5)</sup>	98m/s <sup>2</sup>
Termination	PCB <sup>6)</sup>
Construction	Wash tight, Flux proofed
Unit weight	Approx. 10g

- 1) Equivalent to the max. initial contact resistance is 100mΩ (at 1A 6VDC).
- 2) For NO contacts, measured when applying 100% rated voltage on coil.
- 3) 1min, leakage current less than 1mA.
- 4) The value is measured when voltage drops suddenly from nominal voltage to 0 VDC and coil is not paralleled with suppression circuit.
- 5) When energized, release time of NO contacts shall not exceed 100μs, when non-energized, release time of NC contacts shall not exceed 100μs, meantime, NO contacts shall not be closed.
- 6) Since it is an environmental friendly product, please select lead-free solder when welding. The recommended soldering temperature and time is 240°C to 260°C, 2s to 5s.

## CONTACT DATA <sup>1)</sup>

at 23°C

Load voltage	Load type		Load current A			On/Off ratio		Electrical endurance OPS	Contact material	Load wiring diagram
			1C		1A	On s	Off s			
			NO	NC	NO					
13.5VDC	Resistive	Make	15	5	15	5	5	1×10 <sup>5</sup>	AgSnO <sub>2</sub>	
		Break	15	5	15	5	5			

1) When the load voltage is at 24VDC or higher, or the applications conditions are different from the table above, please submit the detailed application conditions to Hongfa to get more support.



HONGFA RELAY

ISO9001, ISO/TS16949, ISO14001, OHSAS18001, IECQ QC 080000 CERTIFIED

2008 Rev. 1.00

## COIL DATA

at 23°C

	Nominal voltage VDC	Pick-up voltage VDC	Drop-out voltage VDC	Coil resistance x(1±10%)Ω	Power consumption W	Max. allowable overdrive voltage <sup>1)</sup> VDC	
						23°C	85°C
HFKB	9	6.75	0.90	180	0.45	11.7	10.8
	12	9.00	1.20	320	0.45	15.6	14.4
	24	18.00	2.40	1280	0.45	31.2	28.8
HFKB-1	9	5.85	0.65	126	0.64	11.3	10.3
	12	7.80	0.90	225	0.64	15.0	13.8
	24	15.6	1.80	900	0.64	30.0	27.6
HFKB-2	9	4.95	0.60	100	0.80	10.8	9.9
	12	6.60	0.80	180	0.80	14.4	13.2
	24	13.20	1.60	720	0.80	28.8	26.4

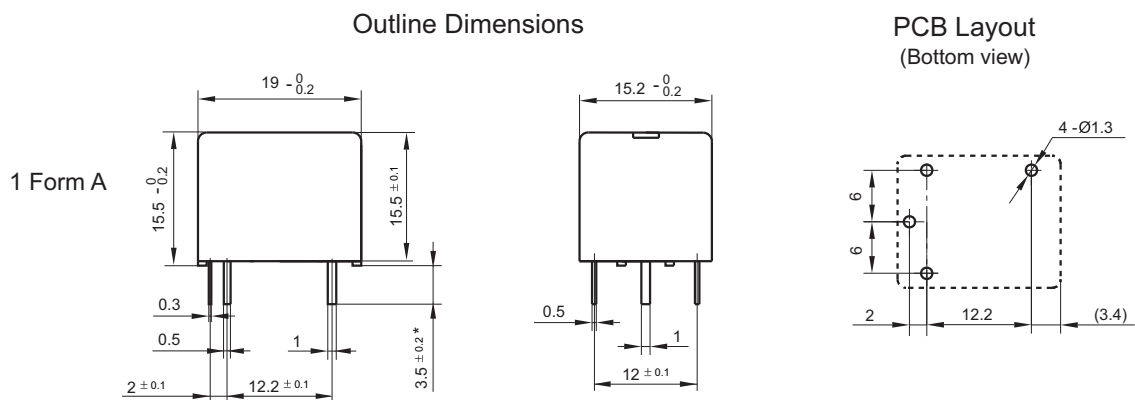
1) Max. allowable overdrive voltage is stated with no load applied.

## ORDERING INFORMATION

		<b>HFKB /</b>		<b>012</b>	<b>-1H</b>	<b>S</b>	<b>(XXX)</b>
<b>Type</b>	HFKB: 0.45W HFKB-1: 0.64W HFKB-2: 0.80W						
<b>Coil voltage</b>	<b>009:</b> 9VDC	<b>012:</b> 12VDC	<b>024:</b> 24VDC				
<b>Contact arrangement</b>	<b>1H:</b> 1 Form A		<b>1Z:</b> 1 Form C				
<b>Construction</b>	<b>S:</b> Wash tight		<b>Nil:</b> Flux proofed				
<b>Customer special code</b>							

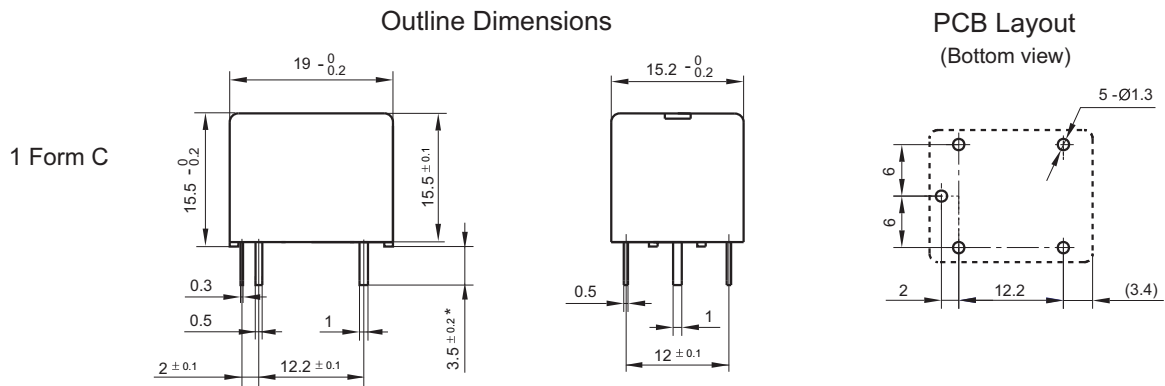
## OUTLINE DIMENSIONS, WIRING DIAGRAM AND PC BOARD LAYOUT

Unit: mm



# OUTLINE DIMENSIONS, WIRING DIAGRAM AND PC BOARD LAYOUT

Unit: mm



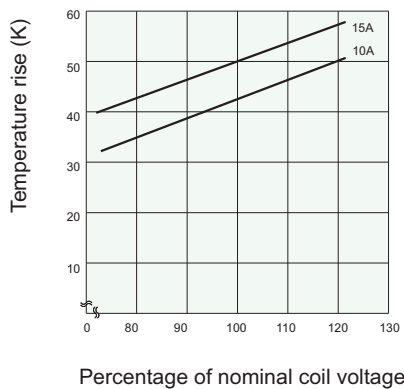
- Notes:** 1) \* The additional tin top is max. 1mm.  
 2) The tolerance without indicating for PCB layout is always  $\pm 0.1$ mm.

## Wiring Diagram (Bottom view)

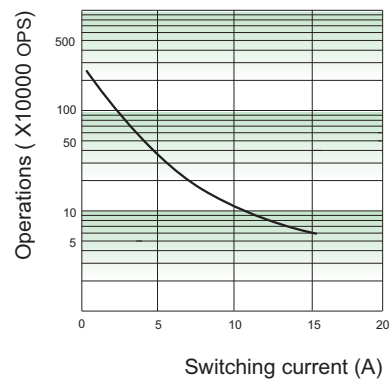


# CHARACTERISTIC CURVES

## 1. Coil temperature rise



## 2. Electrical endurance curve



## Disclaimer

This datasheet is for the customers' reference. All the specifications are 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.