

HFKW-SH

AUTOMOTIVE RELAY



Typical Applications

Central door lock, Anti-theft lock, Lighting control

Features

- Small size
- Double NO contacts
- Standard terminal pitch employed
- Wash tight and flux proofed types available
- RoHS & ELV compliant

CHARACTERISTICS

Contact arrangement	1U (Double NO contacts)
Voltage drop (initial) ¹⁾	Typ.: 50mV (at 10A)
	Max.: 250mV (at 10A)
Max. continuous current ²⁾	2×20A (at 23°C, 2min)
Max. switching current ³⁾	2×20A
Max. switching voltage	See "Load limit curve"
Min. contact load	1A 6VDC
Electrical endurance	See "CONTACT DATA"
Mechanical endurance	1 x 10 ⁷ OPS (300OPS/min)
Initial insulation resistance	100MΩ (at 500VDC)
Dielectric strength	500VAC (1min, leakage current less than 1mA)
Operate time	Max.: 10ms (at nomi. vol.)
Release time	Max.: 5ms ⁴⁾

Ambient temperature	-40°C to 85°C
Vibration resistance ⁵⁾	10Hz to 55Hz 1.5mm DA
Shock resistance ⁵⁾	98m/s ²
Termination	PCB ⁶⁾
Construction	Wash tight, Flux proofed
Unit weight	Approx. 6g

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) At 23°C, 13.5VDC (100 cycles).

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.

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 ³⁾

at 23°C

Load voltage	Load type		Load current A	On/Off ratio		Electrical endurance OPS	Contact material	Load wiring diagram ²⁾
				On s	Off s			
13.5VDC	Resistive	Make	2×6	2	2	2×10 ⁵	AgSnO ₂	See diagram 1
		Break	2×6	2	2			
	Lamp ¹⁾		(2×21W+1×5W)×2	0.3	2	1×10 ⁵	AgSnO ₂	See diagram 2
	Lamp ¹⁾		(2×21W)×2	1	14	1×10 ⁵	AgSnO ₂	See diagram 2

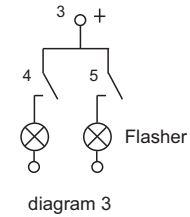
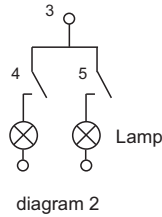
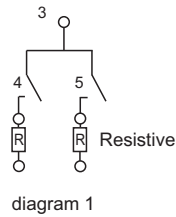


HONGFA RELAY

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

2008 Rev. 1.00

- When it is utilized in flasher, a special AgSnO₂ contact material should be used and the customer special code should be (170) as a suffix. Please connect by the polarity according to the diagram below.
- The load wiring diagrams are listed below:



- 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.

COIL DATA at 23°C

Nominal voltage VDC	Pick-up voltage VDC		Drop-out voltage VDC	Coil resistance x(±10%)Ω	Power consumption W	Max. allowable overdrive voltage ¹⁾ VDC	
	at 23°C	at 85°C				at 23°C	at 85°C
6	3.5	4.5	0.5	36	1	9	7
9	5.2	6.8	0.7	81	1	13.5	10.5
10	5.8	7.9	0.8	100	1	15	11.7
12	6.9	9.0	1.0	144	1	18	14
24	14	18.0	1.9	576	1	36	28

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

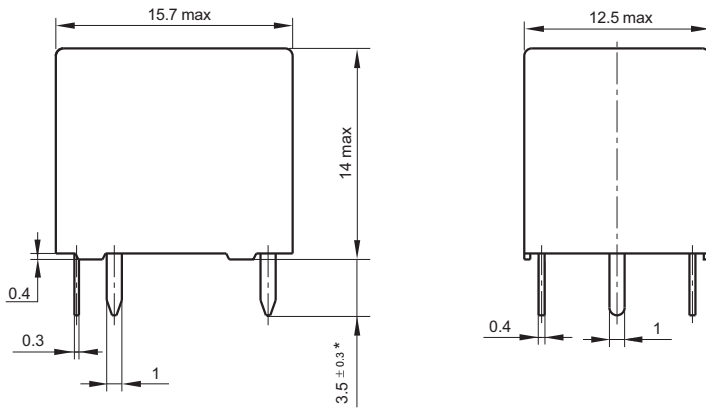
ORDERING INFORMATION

	HFKW / 012 -SH W L C (XXX)
Type	
Coil voltage	006: 6VDC 009: 9VDC 010: 10VDC 012: 12VDC 024: 24VDC
Contact arrangement	SH: 1 Form U (Double NO contacts)
Contact material	W: AgSnO ₂
Construction	L: Flux proofed Nil: Wash tight
Packing style	C: Tape and reel packing Nil: Tube packing
Customer special code	e.g. (170) stands for flasher load

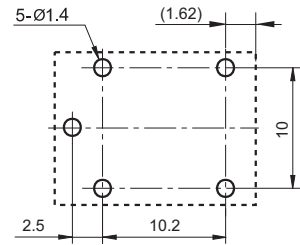
OUTLINE DIMENSIONS, WIRING DIAGRAM AND PC BOARD LAYOUT

Unit: mm

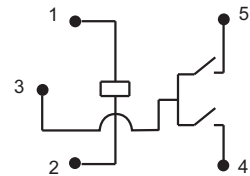
Outline Dimensions



PCB Layout (Bottom view)



Wiring Diagram (Bottom view)

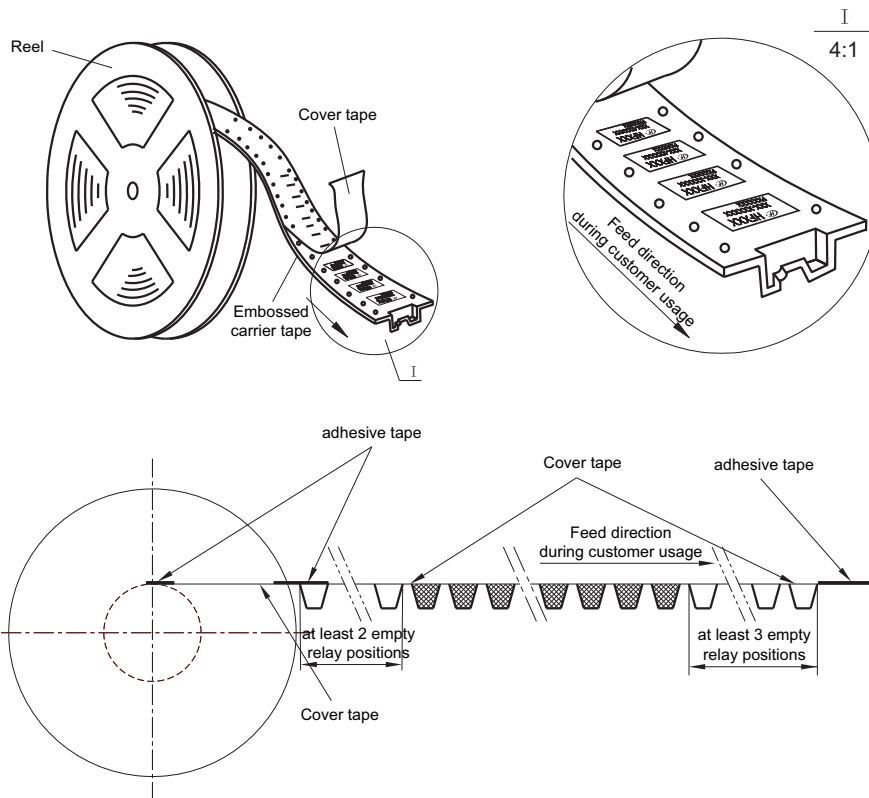


- Notes:** 1) * The additional tin top is max. 1mm.
2) The tolerance without indicating is always ± 0.1 mm.

TAPE AND REEL PACKING

Unit: mm

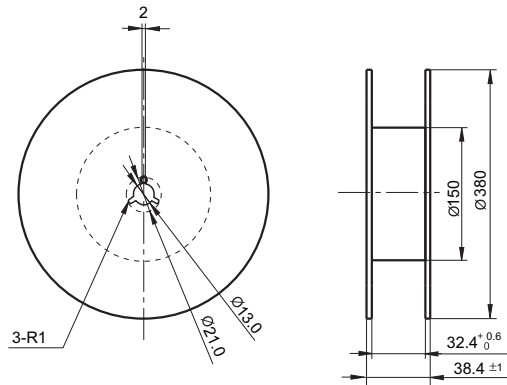
Direction of Relay Insertion



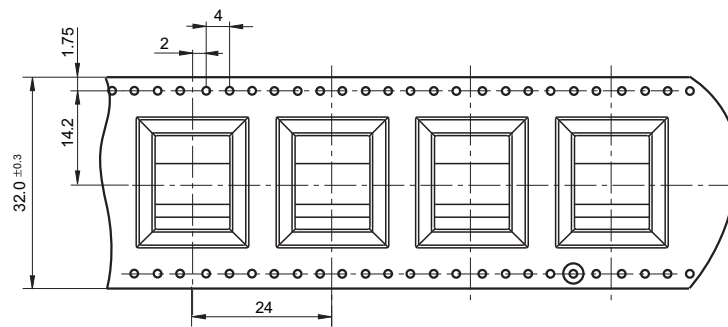
TAPE AND REEL PACKING

Unit: mm

Reel Dimensions

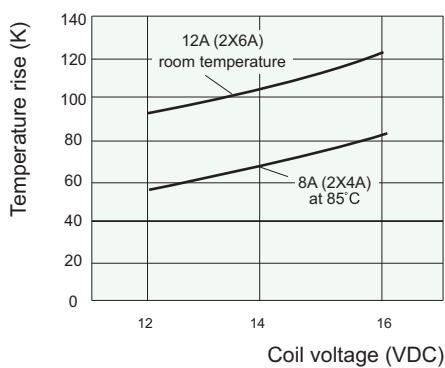


Tape Dimensions

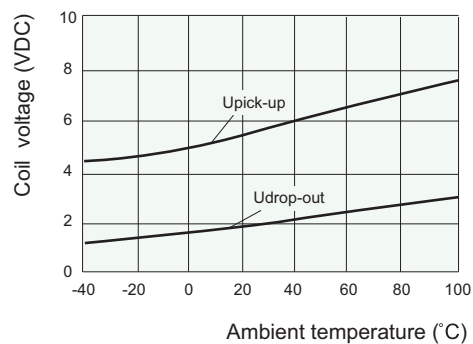


CHARACTERISTIC CURVES

1. Coil temperature rise



2. Pick-up & drop-out voltage - ambient temperature characteristic (HFKW/012-SHW)



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.

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