

HFKW-SH

AUTOMOTIVE RELAY



Typical Applications

Anti-theft lock, Lighting control

Features

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

CHARACTERISTICS

Contact arrangement	1U (Double NO contacts)	Ambient temperature	-40°C to 85°C
Voltage drop (initial) ¹⁾	Typ.: 50mV (at 10A)	Vibration resistance ^{6) 8)}	10Hz to 55Hz 1.5mm DA
	Max.: 250mV (at 10A)	Shock resistance ^{6) 8)}	98m/s ²
Max. continuous current ^{2) 8)}	2 × 10A (at 23°C, 1h)	Termination	PCB ⁷⁾
Max. switching current ^{3) 8)}	2 × 10A	Construction	Plastic sealed, Flux proofed
Max. switching voltage	See "Load limit curve"	Unit weight	Approx. 6g
Min. contact load	1A 6VDC	1) Equivalent to the max. initial contact resistance is 100mΩ (at 1A 6VDC).	
Electrical endurance	See "CONTACT DATA"	2) For NO contacts, measured when applying 100% rated voltage on coil.	
Mechanical endurance	1 × 10 ⁷ OPS (300 OPS/min)	3) At 23°C, 13.5VDC (100 cycles, resistive load).	
Initial insulation resistance	100MΩ (at 500VDC)	4) 1min, leakage current less than 1mA.	
Dielectric strength ⁴⁾	500VAC	5) The value is measured when voltage drops suddenly from nominal voltage to 0 VDC and coil is not paralleled with suppression circuit.	
Operate time ⁸⁾	Max.: 10ms (at nomi. vol.)	6) When energized, release time of NO contacts shall not exceed 100μs.	
Release time ^{5) 8)}	Max.: 5ms	7) Since it is an environmental friendly product, please select lead-free solder when welding. The recommended soldering temperature and time is (250±3)°C, (5±0.3)s.	
		8) Only for the 12VDC coil voltage type.	

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⁾
			1 U	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

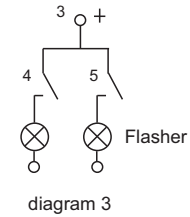
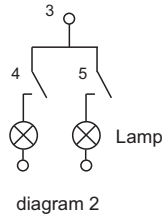
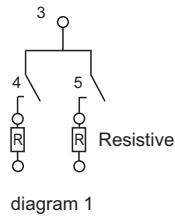


HONGFA RELAY

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

2011 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 ¹⁾ VDC	Pick-up voltage VDC max.		Drop-out voltage VDC min.	Coil resistance x(1±10%)Ω	Power consumption W	Max. allowable overdrive voltage ²⁾ 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

1) Other types on request.

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

ORDERING INFORMATION

Type	HFKW /	012	-SH	W	L	C	(XXX)
Coil voltage	006: 6VDC	009: 9VDC	010: 10VDC	012: 12VDC			
Contact arrangement	SH: 1 Form U (Double NO contacts)						
Contact material	W: AgSnO ₂						
Construction ¹⁾	L: Flux proofed (Reflow soldering version)			Nil: Plastic sealed ²⁾			
Packing style	C: Tape and reel packing ³⁾			Nil: Tube packing			
Customer special code	e.g. (170) stands for flasher load						

1) The structure of HFKW/□□□-SH-W-L□ is only flux proof, the open vent hole is at the bottom of the base.

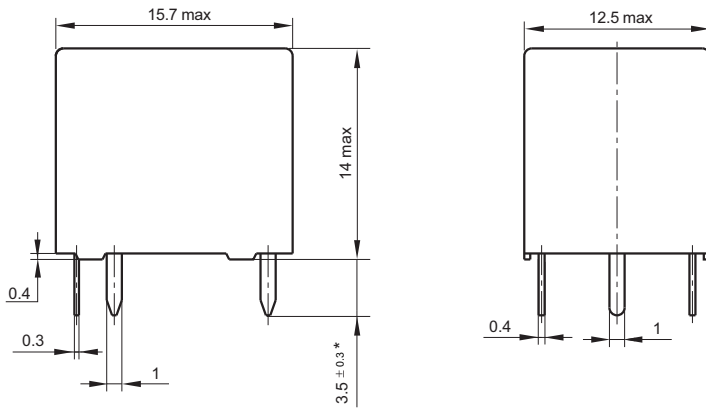
2) If water cleaning is required after the relay is assembled on PCB, please contact us for suggestion about suitable parts.

3) For the C type, the letter "C" will only be printed on packing tag and will not appear on relay cover.

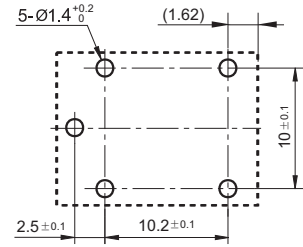
OUTLINE DIMENSIONS, WIRING DIAGRAM AND PC BOARD LAYOUT

Unit: mm

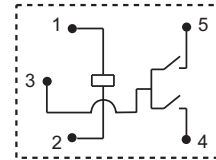
Outline Dimensions



PCB Layout (Bottom view)



Wiring Diagram (Bottom view)

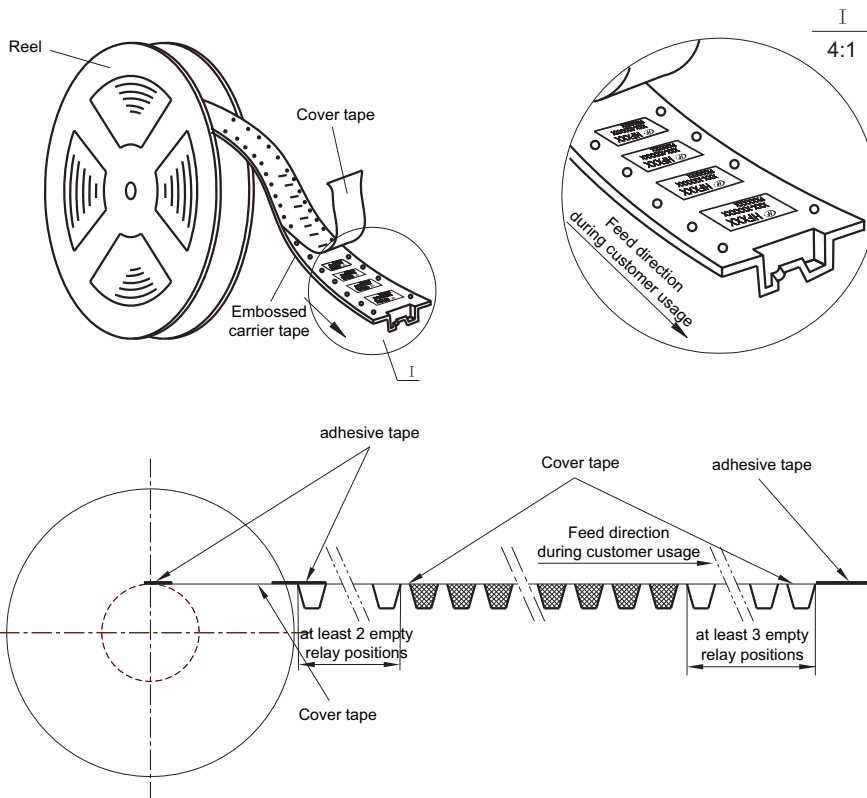


Remark: * The additional tin top is max. 1mm.

TAPE AND REEL PACKING

Unit: mm

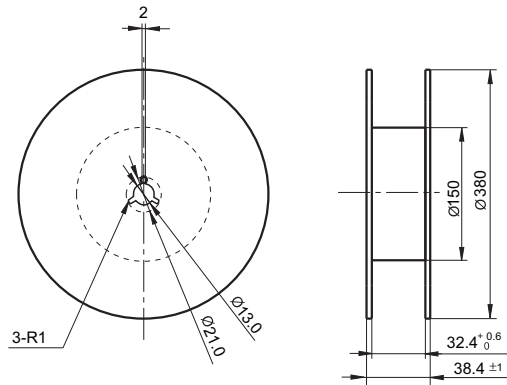
Direction of Relay Insertion



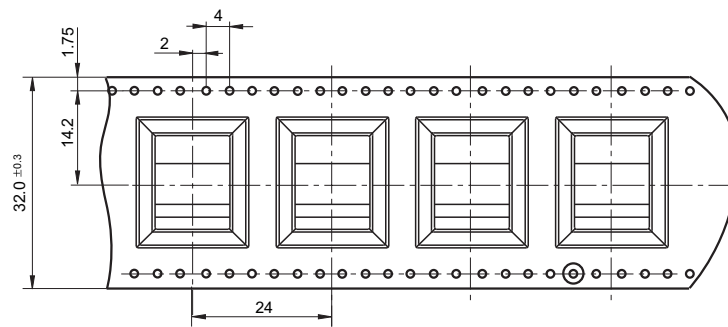
TAPE AND REEL PACKING

Unit: mm

Reel Dimensions

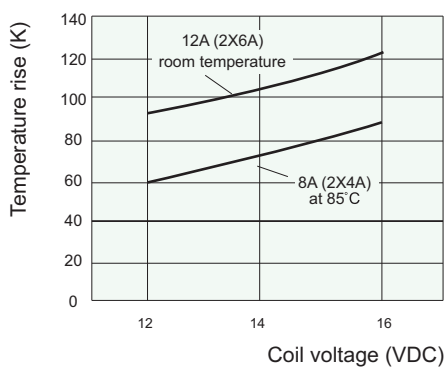


Tape Dimensions

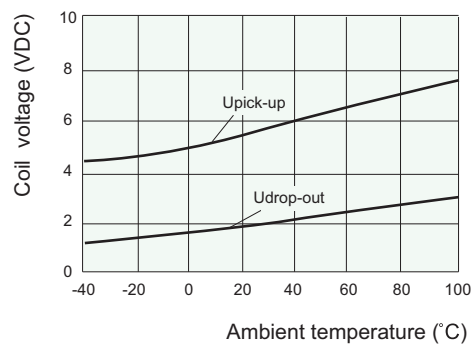


CHARACTERISTIC CURVES

1. Coil temperature rise



2. Pick-up & drop-out voltage - ambient temperature characteristic



HFKW/012-SHW(XXX)

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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