



Typical Applications

Power doors & windows, Indicator lamp control, Wiper control

Features

- 20A switching capability
- Ambient temp.: -40°C to 85°C
- 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) ¹⁾	Typ.: 100mV (at 10A) Max.: 250mV (at 10A)
Max. switching current	20A
Max. switching voltage	14VDC
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	750VAC (1min, leakage current less than 1mA)
Operate time	Typ.:5ms Max.: 10ms ²⁾

Release time	Typ.: 5ms Max.: 10ms ³⁾
Ambient temperature	-40°C to 85°C
Vibration resistance ⁴⁾	10Hz to 500Hz 98m/s ²
Shock resistance ⁴⁾	196m/s ²
Termination	PCB ⁵⁾
Construction	Wash tight, Flux proofed
Unit weight	Approx. 15g

- 1) Equivalent to the max. initial contact resistance is 100mΩ (at 1A 6VDC).
- 2) At nominal voltage and no transient suppression circuit.
- 3) The value is measured when voltage drops suddenly from nominal voltage to 0 VDC and coil is not paralleled with suppression circuit.
- 4) 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.
- 5) 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 ¹⁾

at 23°C

Load voltage	Load type		Load current A			On/Off ratio		Electrical endurance OPS	Contact material
			1C		1A	On s	Off s		
			NO	NC	NO				
13.5VDC	Resistive	Make	60	12	60	1.5	1.5	1×10 ⁵	AgNi
		Break	20	20	20	1.5	1.5		

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 $\times(1\pm 10\%)\Omega$	Power consumption W	Max. allowable overdrive voltage ¹⁾ VDC, at 20°C
3	1.8	0.3	14	0.64	3.6
5	3.0	0.5	39	0.64	6.0
6	3.6	0.6	56	0.64	7.2
9	5.4	0.9	127	0.64	10.8
12	7.2	1.2	225	0.64	14.4
18	10.8	1.8	506	0.64	21.6
24	14.4	2.4	900	0.64	28.8
48	28.8	4.8	3600	0.64	57.6

1) Max. allowable overdrive voltage is stated with no load applied and minimum coil resistance.

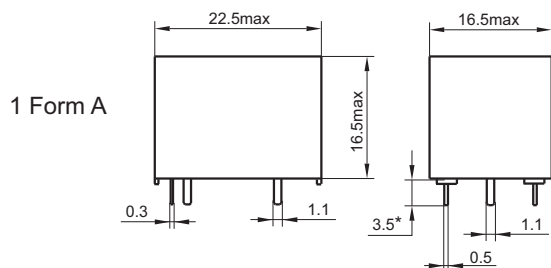
ORDERING INFORMATION

Type	HFKE /	012	-1H	S	(XXX)
Coil voltage	3 to 48VDC				
Contact arrangement	H: 1 Form A		Z: 1 Form C		
Construction	S: Wash tight		Nil: Flux proofed		
Customer special code					

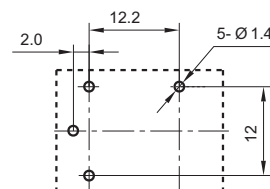
OUTLINE DIMENSIONS, WIRING DIAGRAM AND PC BOARD LAYOUT

Unit: mm

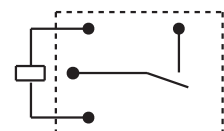
Outline Dimensions



PCB Layout
(Bottom view)

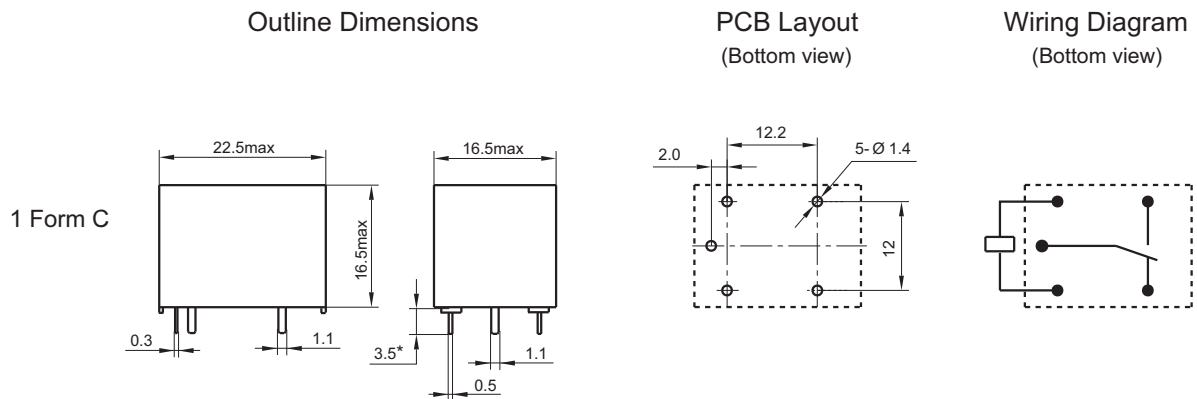


Wiring Diagram
(Bottom view)



OUTLINE DIMENSIONS, WIRING DIAGRAM AND PC BOARD LAYOUT

Unit: mm



Notes: 1) * The additional tin top is max. 1mm.

2) In case of no tolerance shown in outline dimension: outline dimension $\leq 1\text{mm}$, tolerance should be $\pm 0.2\text{mm}$, outline dimension $> 1\text{mm}$ and $\leq 5\text{mm}$, tolerance should be $\pm 0.3\text{mm}$, outline dimension $> 5\text{mm}$, tolerance should be $\pm 0.4\text{mm}$.

3) The tolerance without indicating for PCB layout is always $\pm 0.1\text{mm}$.

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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