



Typical Applications

Energy management, engine control, ignition, main switch/supply relay, preheating system, quiescent current management

Features

- Max. continuous current 60A
- Max. making current 200A
- Extended temp. range up to 125°C
- With highly established reliability
- Strong resistance ability to shock & vibration
- No change of switching state version at breakdown of battery voltage
- Reflow soldering version available
- RoHS & ELV compliant

CHARACTERISTICS

| | |
|---------------------------------------|---|
| Contact arrangement | 1A |
| Voltage drop (initial) ¹⁾ | Typ.: 30mV (at 10A) Max.: 300mV (at 10A) |
| Max. continuous current ²⁾ | 81A 30min/60A continuous (at 23°C) 75A 30min/45A continuous (at 85°C) 70A 30min/30A continuous (at 125°C) |
| Max. switching current | Make: 200A ³⁾ Break: 40A (Resistive, 13.5VDC) |
| Max. switching voltage | 16VDC |
| Min. contact load | 1A 6VDC |
| Electrical endurance | See "CONTACT DATA" |
| Mechanical endurance | 2 x 10 ⁶ OPS |
| Initial insulation resistance | 100MΩ (at 500VDC) |
| Dielectric strength ⁴⁾ | 500VAC |
| Operate time | Typ.: 1.5ms, Max.: 10ms |

| | |
|------------------------------------|--|
| Release time ⁵⁾ | Typ.: 1.5ms Max.: 5ms |
| Ambient temperature | -40°C to 125°C |
| Vibration resistance ⁶⁾ | 30Hz to 440Hz, 196m/s ² 294m/s ² , |
| Shock resistance ⁶⁾ | close time of NO contacts 100μs Max. 980m/s ² , release time of closed NO contacts 100μs Max. |
| Termination | PCB ⁷⁾ |
| Construction | Plastic sealed, Flux proofed |
| Unit weight | Standard type: Approx. 9g Sensitive type: Approx. 11.5g |

- 1) Initial value.
- 2) Tested under below conditions:
A. Measured when applying 100% rated voltage on the coil.
B. The PCB board for the test is of two layers, Copper is 4oz(140um), 13.15x(1±5%)mm in width and (50±1)mm in length, external wire is 5.0mm², Tg value of Printed Circuit Board: 150°C.
- 3) Inrush peak current under lamp load, at 13.5VDC.
- 4) 1min, leakage current less than 1mA.
- 5) The value is measured when voltage drops suddenly from nominal voltage to 0VDC and coil is not paralleled with suppression circuit.
- 6) NO contact closure time is less than 100μs in reset status, NC contact break time is less than 100μs in set status.
- 7) Since it is an environmental friendly product, please select lead-free solder when welding. The recommended soldering temperature and time is (260±3)°C, (5±0.3)s.

CONTACT DATA

| Load voltage | Load type | | Load current | On/Off ratio | | Electrical endurance OPS | Contact material | Ambient temp. |
|--------------|----------------------|-------|--------------|--------------|-------|--------------------------|--------------------|-----------------------------|
| | | | 1A | On s | Off s | | | |
| 13.5VDC | Resistive | Make | 40 | 0.5 | 4.5 | 1×10 ⁵ | AgSnO ₂ | -40°C to 85°C Temp. Cycl |
| | | Break | 40 | | | | | |
| | Inductive L=0.5mH | Make | 60 | 0.5 | 4.5 | 1×10 ⁵ | AgSnO ₂ | |
| | | Break | 35 | | | | | |
| | Lamp | Make | 200 | 0.5 | 4.5 | 1×10 ⁵ | AgSnO ₂ | |
| | | Break | 20 | | | | | |

1) The load listed in below chart is only for the relays without parallel resistance, diode, etc., if need the relay with parallel resistance, diode etc., please contact Hongfa for more technical support.

2) When the load condition is different from this chart, please send the relevant detailed usage condition to Hongfa for more technical support.



HONGFA RELAY

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

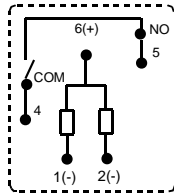
2018 Rev. 1.00

COIL DATA

at 23°C

| Nominal voltage VDC | Set voltage ¹⁾ VDC max. | | | Reset voltage ¹⁾ VDC | | | Set coil resistance x(1±10%)Ω | Reset coil resistance x(1±10%)Ω |
|------------------------|--|------|-------|------------------------------------|------|-------|----------------------------------|------------------------------------|
| | 23°C | 85°C | 125°C | 23°C | 85°C | 125°C | | |
| 12 | 23°C | 85°C | 125°C | 23°C | 85°C | 125°C | 23°C | 23°C |
| | ≤6.9 | ≤8.6 | ≤9.7 | ≤6.9 | ≤8.6 | ≤9.7 | 20 | 19 |
| 12 | ≤6.9 | ≤8.6 | ≤9.7 | ≤6.9 | ≤8.6 | ≤9.7 | 50 | 50 |

Notes: 1) The impulse width should be 10ms to 100ms. Energizing voltage mode should be acted as per the diagram below.



| Polarity for set/reset energization | Set | Reset |
|-------------------------------------|------------------|------------------|
| | Pin1(-), pin6(+) | Pin2(-), pin6(+) |

ORDERING INFORMATION

| | | | | | | | |
|----------------------------|--|----|----|---|---|---------------|-------|
| Type | HFKT-L: Latching(sealed) HFKT-LT: Latching, Reflow soldering version | 12 | -H | S | L | T | (XXX) |
| Coil voltage | 12: 12VDC | | | | | | |
| Contact arrangement | H: 1 Form A | | | | | | |
| Construction | S: Plastic sealed ¹⁾ Nil: Flux proofed | | | | | | |
| Coil type | L: Sensitive Nil: Standard | | | | | | |
| Contact Material | T: AgSnO ₂ | | | | | | |
| Special code ²⁾ | XXX: Customer special requirement | | | | | Nil: Standard | |

Notes: 1) If washing or surface treatment is required after the relay is assembled on PCB, please provide with the conditions in details for our confirmation or our recommendation with suitable products.

2) The customer special requirement express as special code after evaluating by Hongfa.

OUTLINE DIMENSIONS, WIRING DIAGRAM AND PC BOARD LAYOUT

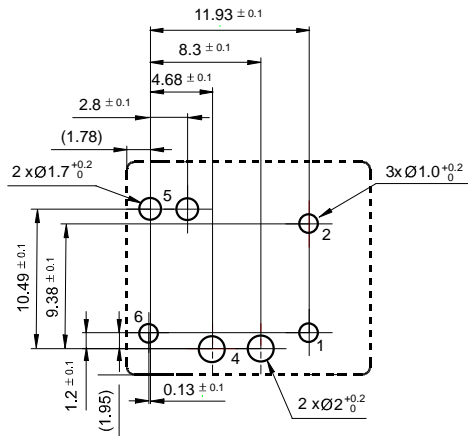
Unit: mm

Outline Dimensions

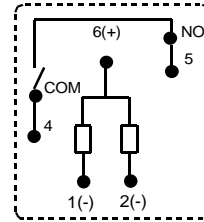


Remark: * The additional tin top is max. 1mm.

PCB Layout (Bottom view)



Wiring Diagram (Bottom view)



Disclaimer

The specification is for reference only. See to "Terminology and Guidelines" for more information. Specifications subject to change without notice. In case there is specific criterion (such as mission profile, technical specification, PPAP etc.) checked and agreed by and between customer and Hongfa, this specific criterion should be taken as standard regarding any requirement on Hongfa product. 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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