HFKT/HFKT-T

AUTOMOTIVE RELAY



Typical Applications

ABS control, Cooling fan, Engine control, Fuel pump, Heating plug, Hazard warning lamp, Fog lamp & headlight, EPS, window & mirror defogger

Features

- Max.continous current 50A
- Max.making current 200A
- Extended temp. range up to 125°C
- With highly established reliability
- Strong resistance ability to shock & vibration
- Reflow soldering version available
- RoHS & ELV compliant

CHARACTERISTICS

Contact arrangement	1A			
Voltage drop (initial) 1)	Typ.: 30mV (at 10A)			
voltage drop (illitial)	Max.: 300mV (at 10A)			
	67.5A 30min/50A continuous (at 23°C)			
Max. continuous current 2)	62.5A 30min/35A continuous (at 85°C)			
	58.5A 30min/25A 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.: 4ms, 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				
Shock resistance ⁶⁾	294m/s², close time of NO contacts <100µs 980m/s², release time of closed NO contacts <100µs				
Termination	PCB ⁷⁾				
Construction	Plastic sealed, Flux proofed				
Unit weight	Approx. 11g				

- 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(140µm), 10.64x(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 0 VDC and coil is not paralleled with suppression circuit.
- 6) when non-energized, close time of NO contacts shall not exceed 100µs, When energized, opening time of closed NO contacts shall not exceed 100µs.
- 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 DATA¹⁾

Load voltage	Load type		Load current	On/Off ratio		Electrical	Contact	Ambient
			1A	On s	Off s	endurance ¹⁾ OPS	material	temp.
L=0.5	Danistica	Make	40	0.5	4.5	1×10 ⁵	AgSnO₂	-40°C to 85°C Temp.Cycl
	Resistive	Break	40	0.5				
	Inductive	Make	60	0.5 4.9	4.5	1×10 ⁵	AgSnO₂	
	L=0.5mH	Break	35		4.5			
	Lamp	Make	200	0.5	4.5	1×10 ⁵	AgSnO₂	
		Break	20					

Loads mentioned in this chart is for relays with no parallel diode or Zener Diode. For those with parallel diode, Zener Diode or other components, please contact Hongfa for more technical supports.
Please also contact Hongfa if the actual application load is diffrent from what mentioned aboved.



HONGFA RELAY

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

2018 Rev. 1.00

COIL DATA

Nominal voltage VDC	Pick-up voltage VDC			Drop	o-out voltage	VDC	Coil resistance $x(1\pm10\%)\Omega$	Power consumption W
	23°C	85°C	125°C	23°C	85°C	125°C	23°C	23°C
10	≤5.6	≤7	≤7.9	≥1.3	≥1.6	≥1.9	120	0.833
12	≤6.9	≤8.6	≤9.7	≥1.5	≥1.9	≥2.1	176	0.818

ORDERING INFORMATION

(XXX) HFKT / 12 S Т -H **HFKT**: Standard Type **HFKT-T**: Reflow soldering version Coil voltage 10: 10VDC 12: 12VDC **Contact arrangement** H: 1 Form A Construction **S**: Plastic sealed ¹⁾ Nil: Flux proofed **Contact Material** T: AgSnO2 Special code²⁾ Nil: Standard XXX: Customer special requirement

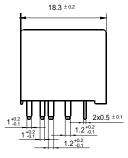
Notes:1) Contact is recommended for suitable condition and specifications if water cleaning or surface process is involved in assembling relays on PCB.

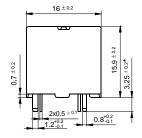
2) The customer special requirement express as special code after evaluating by Hongfa.

OUTLINE DIMENSIONS, WIRING DIAGRAM AND PC BOARD LAYOUT

Unit: mm

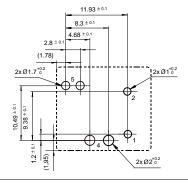
Outline Dimensions



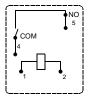


Remark: * The additional tin top is max. 1mm.

PCB Layout (Bottom view)



Wiring Diagram(Bottom view)



CHARACTERISTIC CURVES

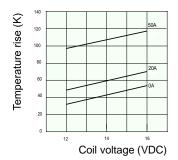
(1) Coil temperature rise (23°C)

Experiment: HFKT-T/12-HST

Amount: three

Carrying current: 0A,20A,50A

Ambient temp.: 23°C



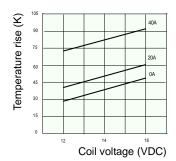
(2) Coil temperature rise (85°C)

Experiment: HFKT-T/12-HST

Amount: three

Carrying current: 0A,20A,40A

Ambient temp.: 85°C



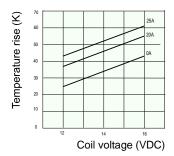
(3) Coil temperature rise (125°C)

Experiment: HFKT-T/12-HST

Amount: three

Carrying current: 0A,20A,25A

Ambient temp.: 125°C



Remark: mounted on PC_board: thickness: double board, copper foil thickness of 4 oz (140 μm); copper foil width of 10.64x(1±5%)mm,copper foil length (50±1)mm; external wire is 5.0mm²; Tg value of Printed Circuit Board: 150°C.

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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