HFK11-T AUTOMOTIVE RELAY

Features

- Max.continuous current 32A
- Extended temp. Range up to 105℃
- With highly established reliability
- Strong resistance ability to shock & vibration
- Reflow soldering version available
- RoHS, ELV compliant

Typical Applications

OBC charge

RoHS compliant

CHARACTERISTICS

Contact arrangement	1 A/1 C
Voltage drop	Typ.:30mV(at 10A) Max.:250mV (at 10A)
Max. continuous current[2)]	NO：32A (at 105℃,6V) NO：35A (at 70℃,6V)
Max. switching current	AC:NO:32A(Resistive,277VAC)
Max. switching voltage	277VAC
Min.contact load	1A 12VDC
Electrical load	See “CONTACT DATA”
Mechanical endurance	3×10^5OPS
Insulation resistance	100MΩ(at 500VDC)
Dielectric stength(1 A)	Between open contacts：2000VAC 1min Between coil and contacts：4000VAC 1min
Dielectric stength(1 C)	Between open contacts：1500VAC 1min Between coil and contacts：4000VAC 1min

Operate time	Max.:15ms
Release time [3)]	Max:10ms
Ambient temperature	-40℃ to 105℃
Vibration resistance	10Hz to 55Hz 1.5mm DA
shock resistance	100 m/s^2
Termination	PCB[4)]
Construction	Plastic sealed,Flux proofed
Unit weight	Appros.15g

Notes:1) The data shown above are initial value；
2）The test under the follow conditions：
a、the relay is mounted on the PCB；
b、The PCB is a double layer board,the thickness of the copper foil is 4 oz（140 um）,the width if each copper foil is 10.64 ×（1±5%）mm，the length of the copper foil is 50 mm±1 mm,and the Tg value of the PCB is 150℃；
3) The value is measured when voltage drops suddenly from nominal voltage to 0VDC and coil is not paralleled with suppression circuit；
4) Since it is an environmental friendly product,please select lead-free solder when welding.The recommended soldering temperature and time is (260±3)℃,(5±0.3)s.

CONTACT DATA[1)]

Load voltage	Load type	Contact arrangement	Load current Making[2)]	Load current Carrying[2)]	Load current Breaking[2)]	On/Off ratio		Electrical endurance OPS	Ambient Temperature
			A	A	A	On s	Off s		
277VAC	Resistive	NO	2	32	2	1	9	5×10^4	105℃
277VAC	Resistive	NO	26	26	26	1	9	2×10^4	85℃
277VAC	Resistive	NO	32	32	32	1	9	1×10^4	85℃
277VAC	Resistive	NO	35	35	35	1	9	1×10^4	70℃

Notes:1)Load 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 different from what mentioned above.
2)Making 100ms,carrying 800ms,breaking 100ms.
3)When the making current and breaking current are the same as the carrying current,it is only applicable to the flux proofed products.

COIL DATA

23℃

Nominal voltage VDC	Pick-up voltage[1] VDC max.	Holding voltage[2] VDC	Drop-out voltage[1] VDC	Max Allowable Coil voltage[3] VDC	Coil resistance ×(1±10%) Ω	Power consumption W
12	9.6	6.0（23℃~105℃）	0.6	13.2	51	2.82

Notes:1) The data shown above are initial value
2) To energize relay properly, apply 100%～120% rated coil voltage for 200 ms，and then it is reduced to holding voltage.
3)Maximum allowable coil voltage refers to the maximum voltage which relay coil could endure in a short period of time.

ORDERING INFORMATION

HFK11-T / 12 -H 18 S T (XXX)

Type	**HFK11-T**：High-temperature version/ Reflow soldering versione
Coil voltage	**12**：12VDC
Contact arrangement	**H**：1 Form A **Z**：1 Form C
Contact gap	**18:**Contact gap≥1.8mm **10:**Contact gap≥1.0mm
Construction[1]	**S**：Plastic sealed[1] **Nil**：Flux proofed (Reflow soldering version)
Contact material	**T**：$AgSnO_2$
Customer special code	**XXX :**Customer special requirement **Nil**：Standard

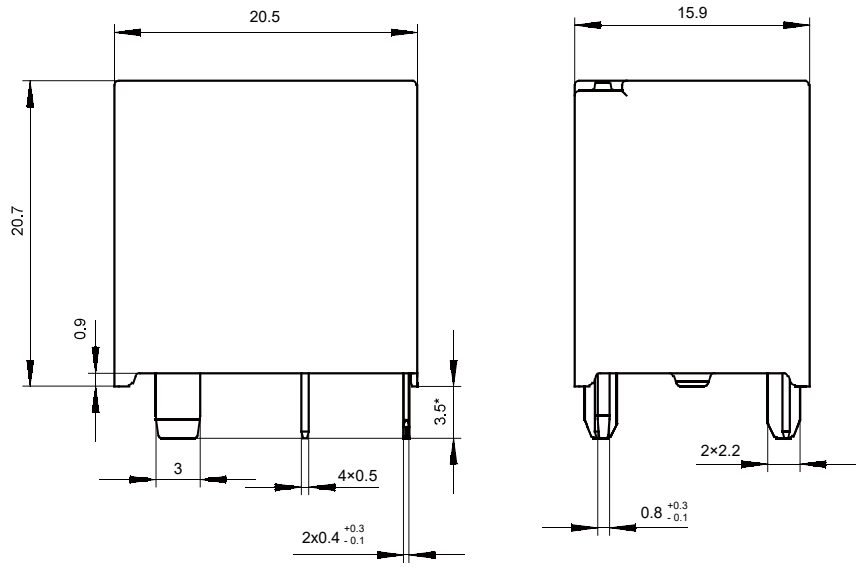
Notes:1) Contact is recommended for suitable condition and specifications if water cleaning or surface process is involved in assembling relays on PCB.

OUTLINE DIMENSIONS, WIRING DIAGRAM AND PC BOARD LAYOUT

Unit: mm

Outline Dimensions

HFK11-T/12-H18□T□□□

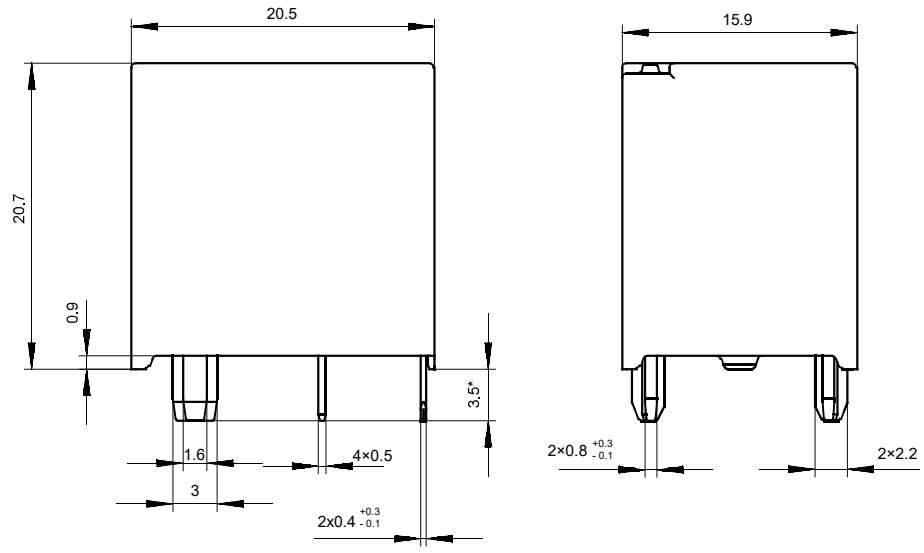


OUTLINE DIMENSIONS, WIRING DIAGRAM AND TERMINAL FUNCTION DEFINITION

Unit: mm

Outline Dimensions

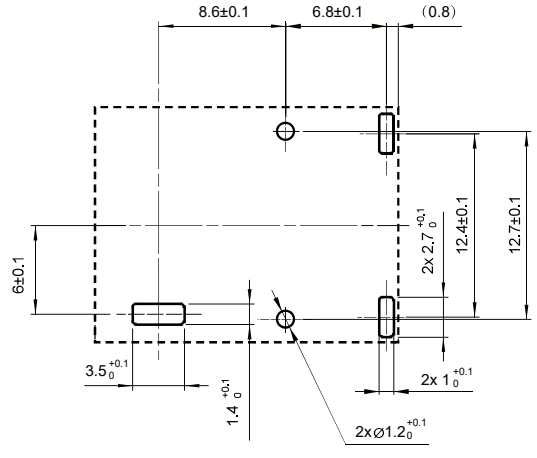
HFK11-T /12-Z10□T□□□



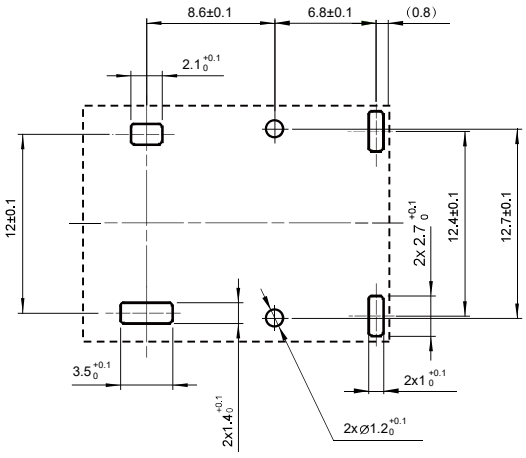
Remark: * The additional tin top is max. 1mm.

PCB Layout(Bottom view)

HFK11-T/12-H18□T□□□



HFK11-T /12-Z10□T□□□



Notes:1)In case of no tolerance showm in outline dimension: outline dimension≤1mm，tolerance should be ±0.2mm； outline dimension＞1mm and ≤5mm,tolerance should be ±0.3mm; outline dimension＞5mm, tolerance should be ±0.4mm.

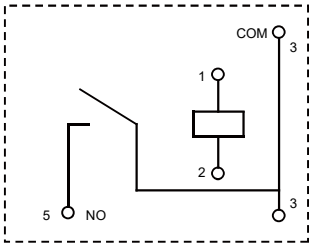
2)The tolerance without indicating for PCB layout is always ±0.1mm.

OUTLINE DIMENSIONS, WIRING DIAGRAM AND TERMINAL FUNCTION DEFINITION

Unit: mm

Wiring Diagram(Bottom view)

HFK11-T/12-H18□T□□□



HFK11-T /12-Z10□T□□□