

## Subminiature High Power Relay

XKB

### Features

- 20A switching capability
- TV-8 125VAC
- Surge voltage up to 6kV (Between coil and contact)
- Temperature range 105°C available
- 1 Form A and 1 Form C configurations
- Plastic sealed type



(File No.: E134581)

### 1. COIL DATA (at 23°C)

Nominal Voltage (VDC)	Pick-up Voltage (VDC)	Drop-out Voltage (VDC)	Max Allowable Voltage (VDC)	Coil Current (mA)(±10%)	Coil Resistance (Ω)	Coil Power (mW)
3	2.25	0.15	3.90	120	25 x (1±10%)	Approx. 360
5	3.75	0.25	6.50	72	70 x (1±10%)	
6	4.50	0.30	7.80	60	100 x (1±10%)	
9	6.75	0.45	11.7	40	225 x (1±10%)	
12	9.00	0.60	15.6	30	400 x (1±10%)	
18	13.5	0.90	23.4	20	900 x (1±10%)	
24	18.0	1.20	31.2	15	1600 x (1±10%)	
48	36.0	2.40	62.4	7.5	6400 x (1±10%)	

**Note:** The maximum allowable voltage refers to the maximum voltage which relay coil could endure in a short period of time.

### 2. CONTACT DATA

Contact Arrangement	1 Form A	1 Form C	
		NO	NC
Contact Resistance	100mΩ max. (at 1A 6VDC)		
Contact Material	AgSnO <sub>2</sub>		
Load	Resistive Load (COSΦ=1)		
Contact Ratings (Resistive Load)	17A 277VAC TV-8@125VAC	17A 277VAC	10A 277VAC
Minimum Load	100mA 5VDC		
Max. Switching Voltage	277VAC		
Max. Switching Current	20A		
Max. Switching Power	4700VA		
Life Expectancy	Electrical	100,000 operations (at 6 operations/minute)	
	Mechanical	10,000,000 operations (at 300 operations/minute)	

### 3. CHARACTERISTICS

Insulation Resistance		100MΩ (at 500VDC)
Dielectric Strength	Open Contacts	1000VAC (50/60Hz 1min)
	Coil and Contacts	2500VAC (50/60Hz 1min)
Surge Voltage	Coil and Contacts	6KV (1.2x50μs)
Operate Time (at nominal voltage)		15ms max.
Release Time (at nominal voltage)		10ms max.
Temperature Range		XKB: -40℃ ~ 85℃ XKBT: -40℃ ~ 105℃ no freezing
Shock Resistance	Functional	10G
	Destructive	100G
Vibration Resistance		10 ~ 55Hz, 1.5mm DA
Humidity		20 ~ 85%
Termination		PCB
Weight		Approx. 14g
Outline Dimension (L x W x H)		21.0 x 16.0 x 20.6mm

**Notes:** The data shown above are initial values.

### 4. SAFETY APPROVAL RATINGS

Safety Standard	Contact Arrangement	Contact Rating
UL/cUL	NO	17A 277VAC 1HP 277VAC 1/2HP 125VAC TV-8@125VAC
	NC	10A 277VAC 1HP 277VAC

**Notes:** Only typical loads are listed above. Other load specifications can be available upon request.

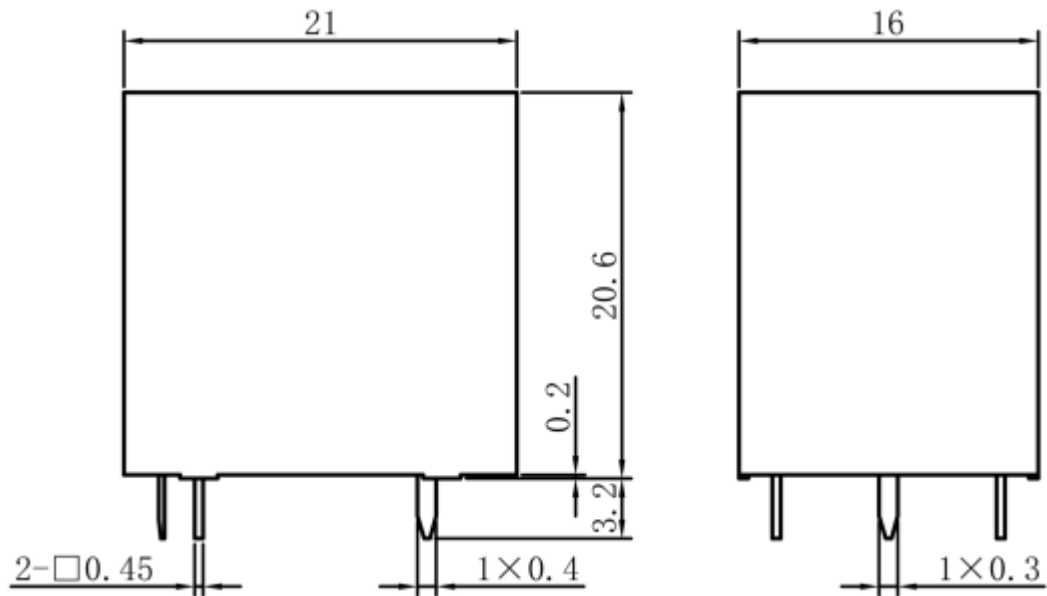
## 5. ORDERING INFORMATION

<u>XKB</u> <u>1</u> - <u>12</u> <u>S</u> <u>I</u> <u>F</u> ①    ②    ③    ④    ⑤    ⑥	
① Relay Model	XKB: 85℃ XKBT: 105℃
② Contact Arrangement	11: 1 Form A (SPST-NO) 1: 1 Form C (SPDT)
③ Coil Voltage	3=3VDC, 5=5VDC, 6=6VDC, 9=9VDC, 12=12VDC, 18=18VDC, 24=24VDC, 48=48VDC
④ Construction	S: Plastic sealed Type
⑤ Coil Power	T: 360mW
⑥ Insulation Standard	Nil: Standard Type F: Class F

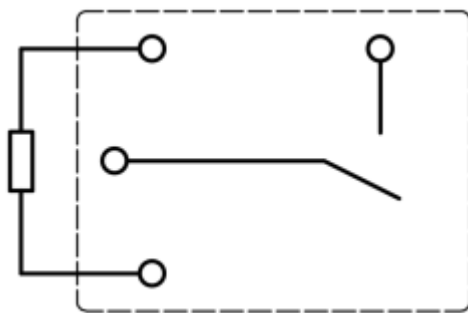
## 6. DIMENSIONS (Unit: mm)

1 From A

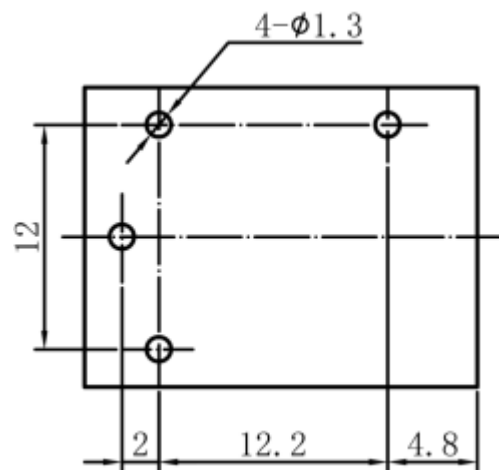
Outline Dimensions



Wiring Diagram (Bottom View)

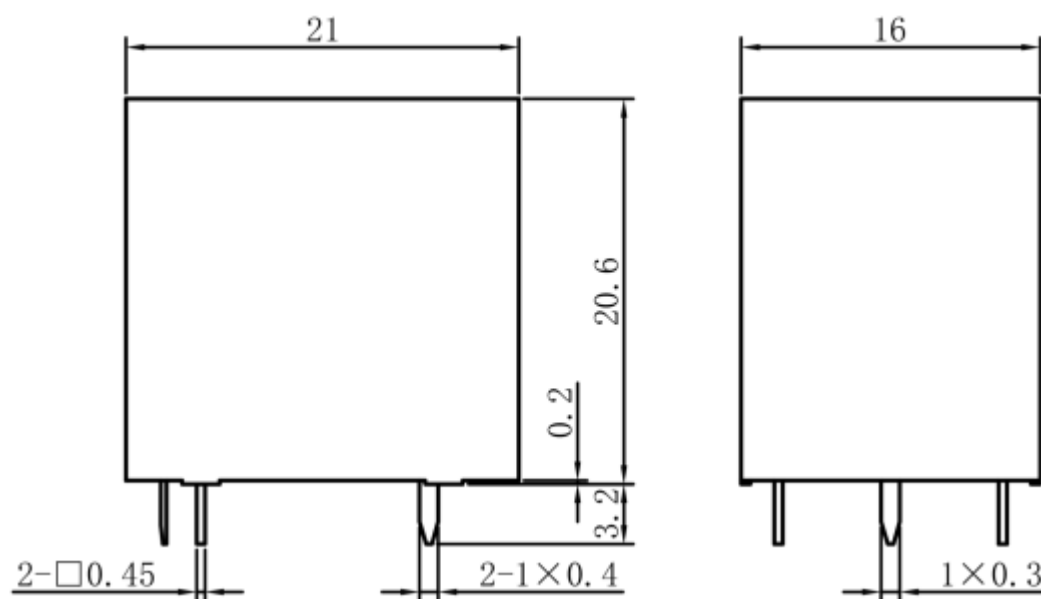


PCB Layout (Bottom View)

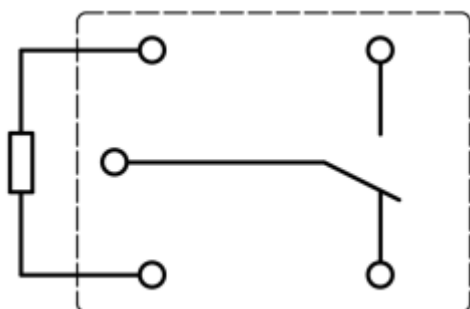


1 From C

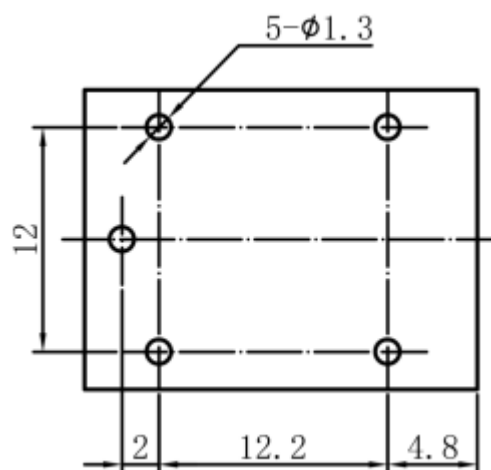
Outline Dimensions



Wiring Diagram (Bottom View)



PCB Layout (Bottom View)



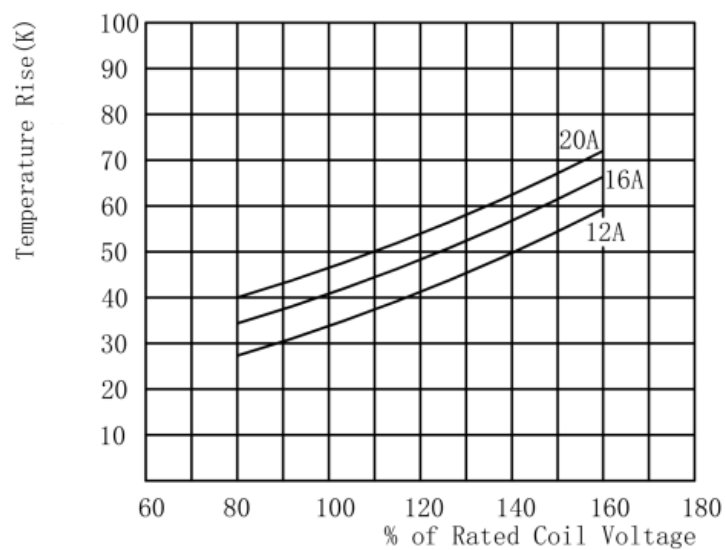
**Remark:** 1) In case of no tolerance shown in outline dimension: outline dimension  $\leq 1\text{mm}$ , tolerance should be  $\pm 0.2\text{mm}$ ; outline dimension  $> 1\text{mm}$  and  $\leq 5\text{mm}$ , tolerance should be  $\pm 0.3\text{mm}$ ; outline dimension  $> 5\text{mm}$ , tolerance should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

2) The additional tin top is max. 1mm

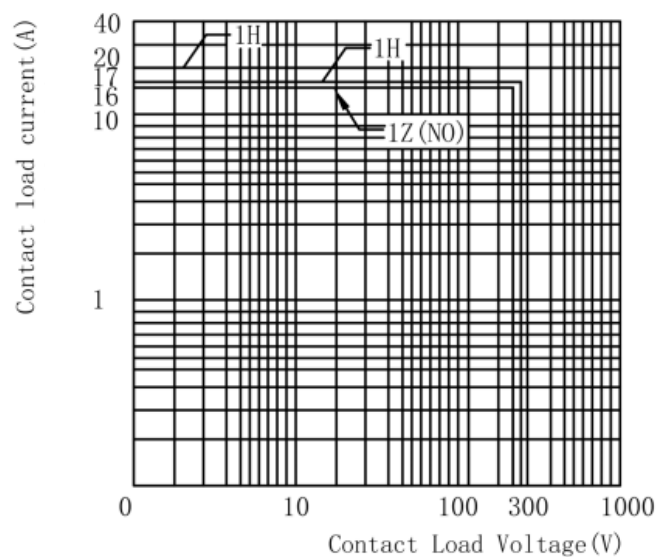
3) The tolerance without indicating for PCB layout is always  $\pm 0.1\text{mm}$

## 7. CHARACTERISTIC CURVES

Coil Temperature Rise @23℃



Contact Switching Capacity



Endurance Curve

