

1. General specification 基本事项

- 1.1 Switch action 开关种类 : Push-on type S.P.S.T 按下导通式、单刀单掷
- 1.2 Switch rating 最大额定值 : D.C. 12V, 50mA
- 1.3 Operation temperature range 使用温试验范围 : -20 ~ +70°C
- 1.4 Preservative temperature range 保存温度范围 : -40 ~ +85°C
- 1.5 Appearance and dimensions 外形及尺寸 : See outside drawing page
- 1.6 Standard condition 试验、测定状态

Unless otherwise specified, the test and measurements shall be carried out as follows:

Ambient temperature 温度 : 5 ~ 35°C

Relative humidity 相对湿度 : 45 ~ 85%

Air pressure 气压 : 86 ~ 106kPa (860 ~ 1060 mbar)

However, if doubt arises on the decision based on the measured

Values under the above-mentioned conditions, the following conditions shall be employed:

但是在对判定产生疑义时, 按下述状态实施:

Ambient temperature 温度 : 20 ± 2°C

Relative humidity 相对湿度 : 65 ± 5%

Air pressure 气压 : 86 ~ 106kPa (860 ~ 1060 mbar)

2. Performance 性能

2.1 Electrical characteristics 电气性能

NO.	Item 项目	Test condition 试验条件	Performance 规格
2.1.1	Contact Resistance 接触电阻	Push force(Operation force)× 2. 测定时的负荷: 操作方向动作力基准值的 2 倍。 Measurement tool: Contact resistance meter 测定器: 微电流接触电阻计 (1kHz,20mV,5~50mA)	30mΩ MAX 30mΩ 以下
2.1.2	Insulation Resistance 绝缘电阻	D.C.100V(Between terminals) (端子间)	100MΩ min 100MΩ 以上
2.1.3	Withstand Voltage 耐电压	A.C 500V for 1 min (Between terminals) (端子间)	No insulation destruction. 无绝缘破坏。
2.1.4	Bouncing 触点抖动	Operation speed: 3~4 times/sec. 操作速度: 每秒 3~4 次 Switch Bouncing Test Circuit 抖动测定回路	ON:3ms max 以下 OFF:8ms max 以下

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2. Mechanical Characteristics 机械性能

NO.	Item 项目	Test condition 试验条件	Performance 规格
2.2.1	Operation force 动作力	Push by recommended operating condition.(4.2) 按规定的操作条件施加压力(4.2)	Push force : 1.76±0.3N 按压力 (180±30gf) return force: 回弹力 20gf min
2.2.2	Travel to closure 动作行程	Push by recommended operating condition.(4.2) $F=(\text{Operation force}) \times 2$ 按规定的操作条件施加压力 $F=\text{动作力} \times 2$	0.25 ± 0.1mm
2.2.3	Push strength 按压强度	50N(5Kgf)for 1 minute 50N(5Kgf)1 分钟	No damage (Electrical and mechanical) 无异常。 (电气、机械特性)
2.2.4	Push strength 按压强度	Break by drawing push Plate in the direction of right diagram 抽拔推杆使其破坏的强度。	2kgf min
2.2.5	Vibration test 耐振性	1) Amplitude 全振幅:1.5mm 2) Sweep rate 扫描速度:10-55-10HZ for 1 minute 3) Sweep method: Logarithmic frequency sweep rate 扫描方式: 对数频率扫描速度 4) Vibration direction 振动方向 :X,Y,Z(3 directions) 5) Time: Each direction 2 hours(Total 6 hours) 时间: 每个方向 2 个小时 (共 6 个小时)	No. 2.1 and 2.2.1 to 2.2.2 shall be satisfied. 满足 2.1 项和 2.2.1 至 2.2.2 项
2.2.6	Soldering heat test 焊锡耐热	Soldering area: t/2 of P.C.B thickness (P.C.B:T=1.6) 焊接面积: 印刷基板的 1/2 厚度处 Soldering temperature 焊接温度: 260±5℃ Soldering time 焊接时间:5± 1sec.	No damage (electrical and mechanical) 无异常。 (电气、机械特性)
2.2.7	Soldering test 可焊性	After sprated flux 涂上助焊剂后 Temperature 230±5℃ 温度: 230±5℃ Soldering time 2±0.5 sec 焊接时间:2±0.5 秒	70% or more of surface area of the portion immersed in sloder shall be covered by new solder 70%或更多的浸焊面积能被焊锡覆盖。
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NO.	Item 项目	Test condition 试验条件	Performance 规格
2.3.5	Endurance (switching action) 耐久特性 (开关寿命)	1) D.C. 12V 50mA resistance load D.C. 12V 50mA 电阻负荷 2) Operation speed: 2~3 times/S 动作速度: 2~3 次/秒 3) Push force: Maximum value of operation 按力: 动作力规格值的上限 4) Operation number; 100,000 times 动作次数: 10 万	Contact resistance: 200mΩ max 接触电阻 200mΩ 以下 Bouncing: 10 ms max 触点抖动: 10 秒以下 Variation rate of operation force shall be within ±30% to the value before testing 动作力的变化范围在初始值的 ±30%以内。 No. 2.1.2 to 2.1.4 and No. 2.2.1 to 2.2.2 shall be satisfied 满足 2.1.2 到 2.1.4 项、2.2.1 到 2.2.2 项
2.3.6	Withstand H ₂ S 耐 H ₂ S	1) Density: 3±1 ppm 浓度: 3±1 ppm 2) Temperature: 40±2°C 温度: 40±2°C 3) relative humidity: 90~95% 相对湿度: 90~95% 4) Duration of test: 24h 持续时间: 24 小时 5) Standard conditions after test: 1h 试验后的放置条件: 1 小时	Contact resistance: 200mΩ max No. 2.1.2 to 2.1.4 and No. 2.2.1 to 2.2.2 shall be satisfied 接触电阻 200mΩ 以下 满足 2.1.2 到 2.1.4 项、2.2.1 到 2.2.2 项
2.3.7	Withstand SO ₂ 耐 SO ₂	1) Density: 10±2 ppm 浓度: 10±2 ppm 2) Temperature: 40±2°C 温度: 40±2°C 3) relative humidity: 90~95% 相对湿度: 90~95% 4) Duration of test: 24h 持续时间: 24 小时 5) Standard conditions after test: 1h 试验后的放置条件: 1 小时	Contact resistance: 200mΩ max No. 2.1.2 to 2.1.4 and No. 2.2.1 to 2.2.2 shall be satisfied 接触电阻 200mΩ 以下 满足 2.1.2 到 2.1.4 项、2.2.1 到 2.2.2 项
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2.3 Environment 环境测试

NO.	Item 项目	Test condition 试验条件	Performance 规格												
2.3.1	Cold test 耐寒性	1) Temperature: $-40\pm 2^{\circ}\text{C}$ 温度: $-40\pm 2^{\circ}\text{C}$ 2) Duration of test: 500h 持续时间: 500 小时 3) Take off a drop water 去掉水珠 4) Standard conditions after test: 1h 试验后的放置条件: 1 小时	Contact resistance: $200\text{m}\Omega$ max No. 2.1.2 to 2.1.4 and No. 2.2.1 to 2.2.2 shall be satisfied 接触电阻 $200\text{m}\Omega$ 以下 满足 2.1.2 到 2.1.4 项、2.2.1 到 2.2.2 项												
2.3.2	Heat test 耐热性	1) Temperature: $-85\pm 2^{\circ}\text{C}$ 温度: $-85\pm 2^{\circ}\text{C}$ 2) Duration of test: 500h 持续时间: 500 小时 3) Standard conditions after test: 1h 试验后的放置条件: 1 小时	Contact resistance: $200\text{m}\Omega$ max No. 2.1.2 to 2.1.4 and No. 2.2.1 to 2.2.2 shall be satisfied 接触电阻 $200\text{m}\Omega$ 以下 满足 2.1.2 到 2.1.4 项、2.2.1 到 2.2.2 项												
2.3.3	Temperature Cycle 温度循环	1) Test cycles: 20 cycles 试验周期: 20 个周期 2) Standard conditions after test: 1h 试验后的放置条件: 1 小时 <table border="1" data-bbox="467 1079 1045 1436"> <thead> <tr> <th></th> <th>Temperature 温度</th> <th>duration of test 持续时间</th> </tr> </thead> <tbody> <tr> <td rowspan="4">1 cycle 一次 循环</td> <td>$20\pm 5^{\circ}\text{C}$</td> <td>1h</td> </tr> <tr> <td>$-40\pm 2^{\circ}\text{C}$</td> <td>1h</td> </tr> <tr> <td>$20\pm 5^{\circ}\text{C}$</td> <td>1h</td> </tr> <tr> <td>$85\pm 5^{\circ}\text{C}$</td> <td>1h</td> </tr> </tbody> </table>		Temperature 温度	duration of test 持续时间	1 cycle 一次 循环	$20\pm 5^{\circ}\text{C}$	1h	$-40\pm 2^{\circ}\text{C}$	1h	$20\pm 5^{\circ}\text{C}$	1h	$85\pm 5^{\circ}\text{C}$	1h	Contact resistance: $200\text{m}\Omega$ max No. 2.1.2 to 2.1.4 and No. 2.2.1 to 2.2.2 shall be satisfied 接触电阻 $200\text{m}\Omega$ 以下 满足 2.1.2 到 2.1.4 项、2.2.1 到 2.2.2 项
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	$20\pm 5^{\circ}\text{C}$	1h													
	$85\pm 5^{\circ}\text{C}$	1h													
2.3.4	Humidity Test 耐湿性	1) Temperature: $-40\pm 2^{\circ}\text{C}$ 温度: $-40\pm 2^{\circ}\text{C}$ 2) relative humidity: 90~95% 相对湿度: 90~95% 3) Duration of test: 500h 持续时间: 500 小时 4) Take off a drop water 去掉水珠 5) Standard conditions after test: 1h 试验后的放置条件: 1 小时	Contact resistance: $200\text{m}\Omega$ max No. 2.1.2 to 2.1.4 and No. 2.2.1 to 2.2.2 shall be satisfied 接触电阻 $200\text{m}\Omega$ 以下 满足 2.1.2 到 2.1.4 项、2.2.1 到 2.2.2 项												
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4. Precaution 注意事项

4.1 Soldering condition 浸焊条件

ITEM 项目	CONDITION 条件
Preheat temperature 预热温度	110°C max (Embilomental temperature of soldering surface of P.C.B) 110°C 以下 (印刷基板焊锡面周围的温度)
Preheat time 预热时间	60 sec. max 60 秒以内
Area of flux 助焊剂的面积	1/2 max of P.C.B thickness 印刷基板厚度的 1/2 以内
Temperature of solder 焊锡温度	255°C max 255°C 以下
Time of immersion 浸焊时间	Within 5 sec. 5 秒以内
Soldering number 浸焊次数	Within 2 times (But should bring down heat of the first soldering) 2 次以内 (但应把第一次焊锡的温度降下来)
Printed wiring board 印刷基板	Single sided copper-clad laminates. 单面铜箔

- 1) After switches were soldered, please be careful not to clean switches with solvent
开关浸焊后, 注意不要用溶剂清洗。
- 2) In the case of using soldering iron, soldering conditions shall be 280°C max and 3 sec. max
在使用烙铁的情况下, 焊锡温度应在 280°C 以下、3 秒以内。
- 3) Right after switches were soldered, please be careful not to load on the knobs of switches.
浸焊后, 注意不要在顶部施加负荷。

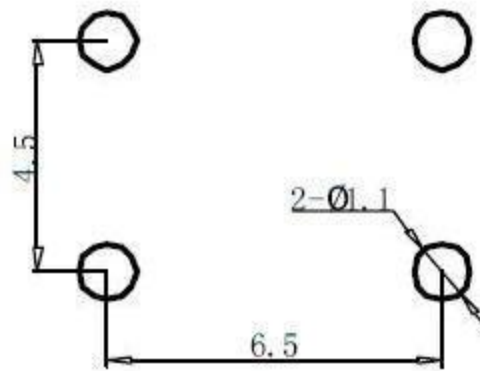
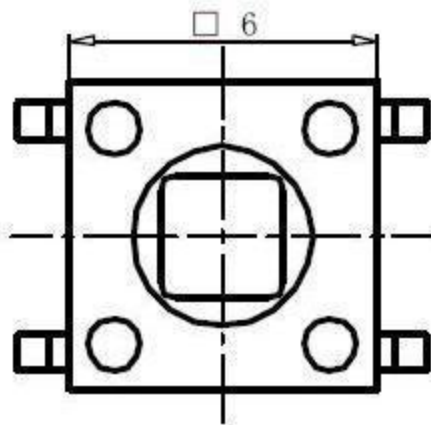
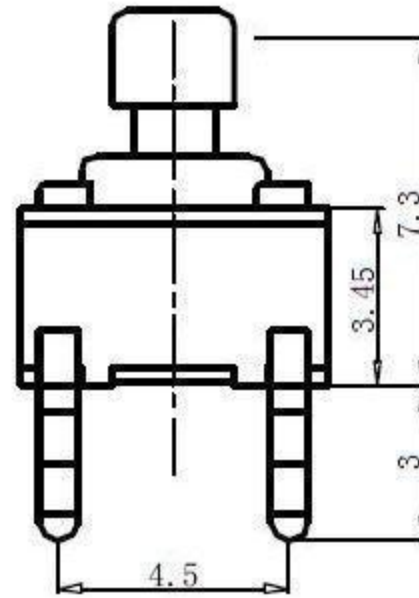
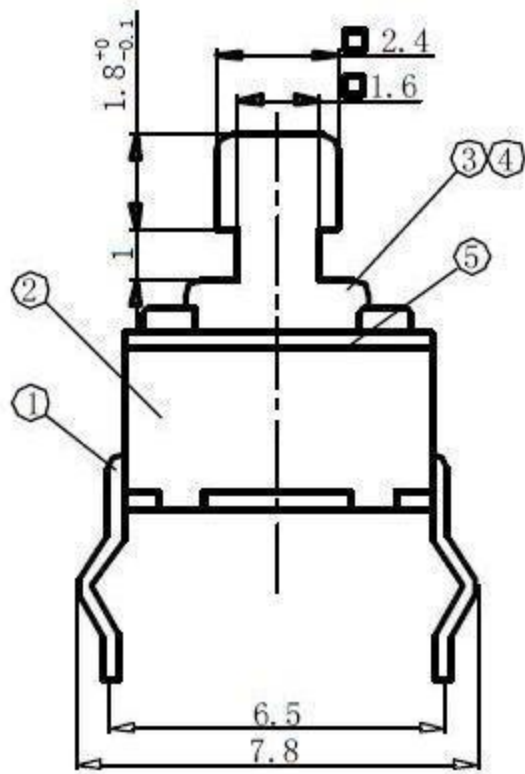
4.2 Design instructions 设计中应注意的事项

- 1) Follow recommended P.C.B piercing plan in outside drawing page.
印刷基板的安装孔尺寸参见产品图。
- 2) Design key top as fig-1. Design inclination of key top 4 deg. Max as fig-2.
(Recommended operating condition.)
击键部设计如图-1, 击键部倾斜度如图-2 在 4 度以内。
(参见操作条件)。

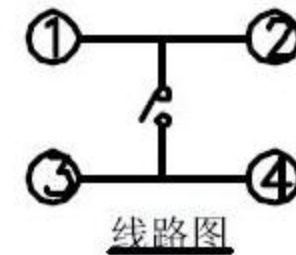
4.3 Note 注意点

- 1) Please be cautious not to give excessive static load or shock to switches.
注意不要施加超负荷的压力或晃动开关。
- 2) Please be careful not to pile up P.C.B after switches were soldered.
开关焊接以后, 印刷基板注意不要叠放。
- 3) Preservation under high temperature and high humidity or corrosive gas should be avoided especially.
When you need to preserve for a long period, do not open the carton.
保管时尤其应注意避开高湿高温和有腐蚀性气体的环境。如需长时间保存, 请不要打开包装箱。

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ITEM	SPEC.
RATED LOAD	DC 12V 50mA
INSULATED RESISTANCE	$\geq 100M\Omega$
VOLTAGE INDURANCE	AC250V 50HZ 1min
SWITCH LIFE	50000次
TEMPERATURE	-25~70℃
HUMIDITY	(40℃) $\leq 95\%$
CONTACT RESISTANCE	$\leq 0.03\Omega$
PUSH DISTANCE	0.25±0.05mm
STRENGTH	170gf±30gf

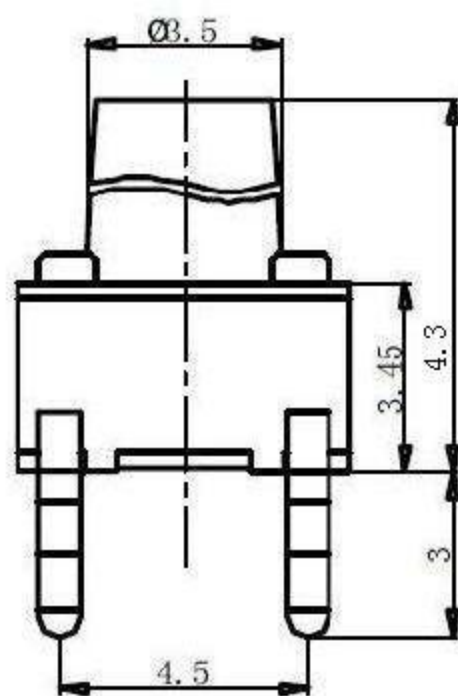
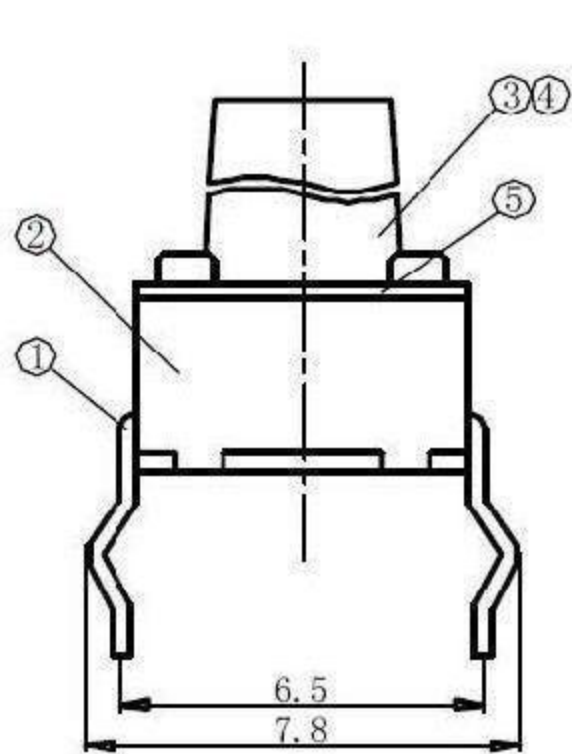


A	BASE	1	NYLON/62COPPER	BLACK/PLATED SILVER
B	SPRING	1	SILVER COPPER ACCOY	SILVER WHITE PLATED SIVER
C	AXIS	1	NYLON	BLACK
D	CASING	1	IRN	SILVER WHITE
NO.	PART NAME	QTY	MATER IAC	REMARK

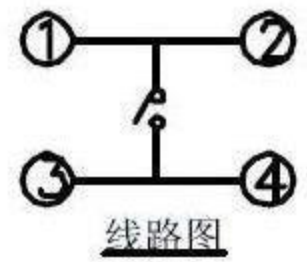
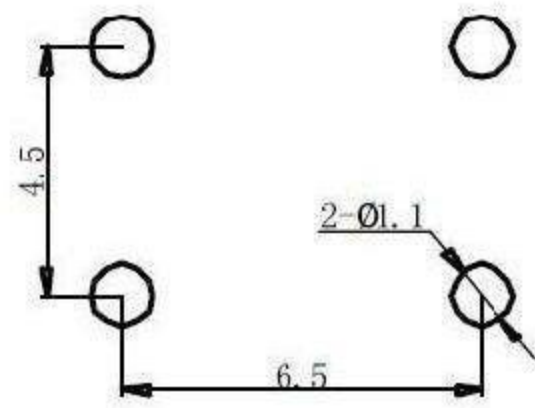
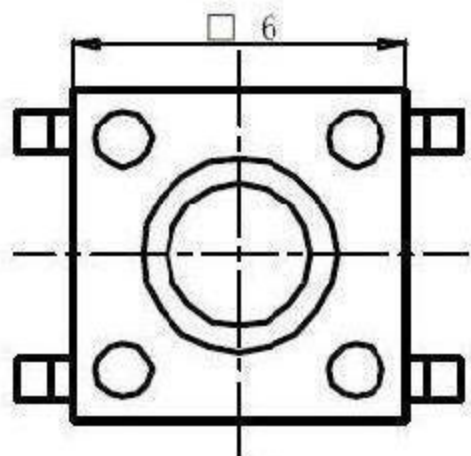
ALLCONNE INTERNATIONAL CO.,LIMITED.

PRODUCT:TACT SWITCH

TOLERANCE			DESIGN	xiaolin.G	DATE	2008.4.19	UNIT: mm	PART.NO: KAN0610	
≤ 6	≤ 10	> 10	CHECK	haiyang.Y	DATE	2008.4.19		FILE.NO.: A-KAN0610	
± 0.1	± 0.2	± 0.3	APPRAC	jiyong.G	DATE	2008.4.19		SCALE	1/1



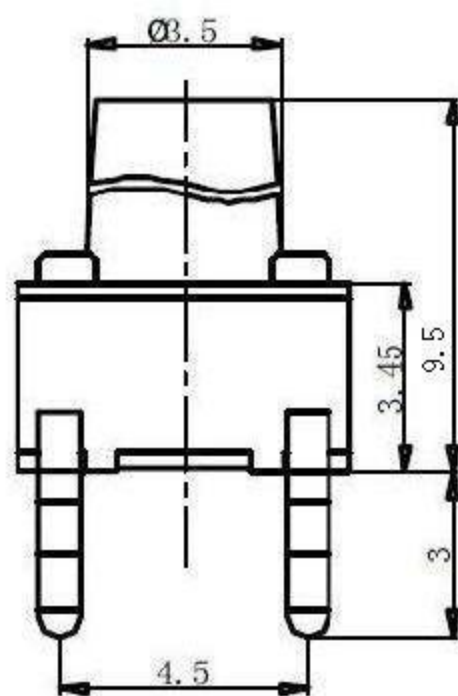
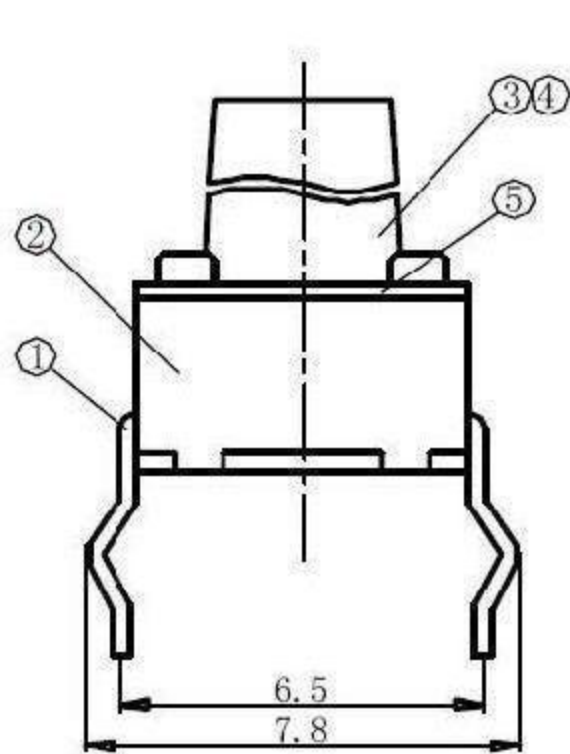
ITEM	SPEC.
RATED LOAD	DC 12V 50mA
INSULATED RESISTANCE	≥100MΩ
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SWITCH LIFE	50000次
TEMPERATURE	-25~70℃
HUMIDITY	(40℃) ≤95%
CONTACT RESISTANCE	≤0.03Ω
PUSH DISTANCE	0.25±0.05mm
STRENGTH	170gf±30gf



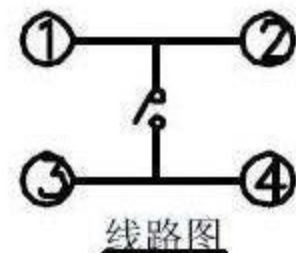
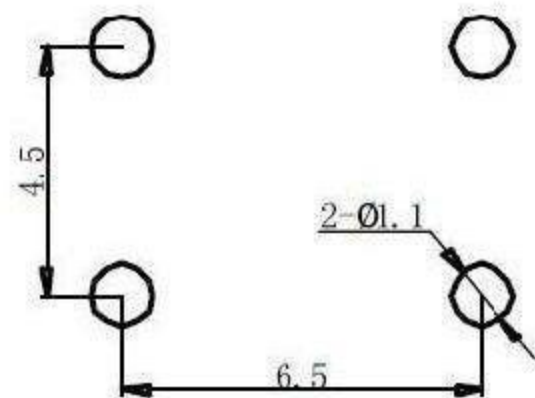
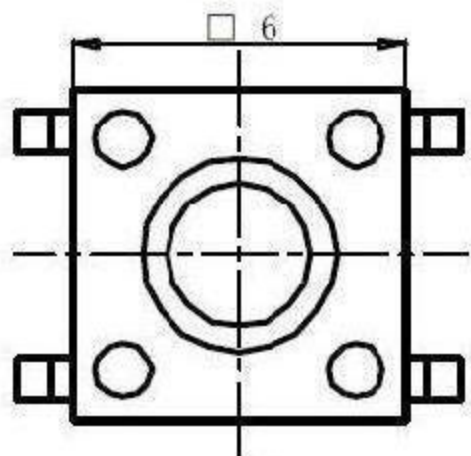
A	BASE	1	NYLON/62COPPER	BLACK/PLATED SILVER
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C	AXIS	1	NYLON	BLACK
D	CASING	1	IRN	SILVER WHITE
NO.	PART NAME	QTY	MATER IAC	REMARK

ALLCONNE INTERNATIONAL CO.,LIMITED. PRODUCT:TACT SWITCH

TOLERANCE			DESIGN	xiaolin.G	DATE	2008.4.19	UNIT: mm	PART.NO: KAN6211	
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±0.1	±0.2	±0.3	APPRAC	jieyong.G	DATE	2008.4.19		SCALE	1/1



ITEM	SPEC.
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B	SPRING	1	SILVER COPPER ACCOY	SILVER WHITE PLATED SIVER
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D	CASING	1	IRN	SILVER WHITE
NO.	PART NAME	QTY	MATER IAC	REMARK

ALLCONNE INTERNATIONAL CO.,LIMITED. PRODUCT:TACT SWITCH

TOLERANCE			DESIGN	xiaolin.G	DATE	2008.4.19	UNIT: mm	PART.NO: KAN0611	
≤6	≤10	> 10	CHECK	haiyang.Y	DATE	2008.4.19		FILE.NO.: A-KAN0611	
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