



深圳市首韩科技有限公司

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# 承 认 书

## SPECIFICATION FOR APPROVAL

客 户 Customer:

\_\_\_\_\_

产品名称 Project:

轻触开关

\_\_\_\_\_

规格型号 Part No:


TS6643TP

\_\_\_\_\_

### 贵公司承认印 Approval signatures

| 料 号/Part No. | 签 章/Signatures |
|--------------|----------------|
|              |                |

日期 Date:

|             |     |  |
|-------------|-----|--|
| 拟制/Drawn    | 李春风 |  |
| 审核/Check    | 张栋  |  |
| 批准/Approved | 罗孝金 |  |



# 产 品 规 格 书

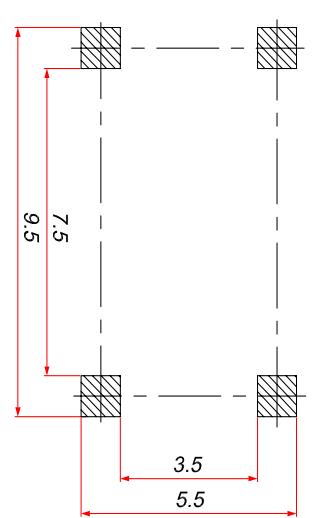
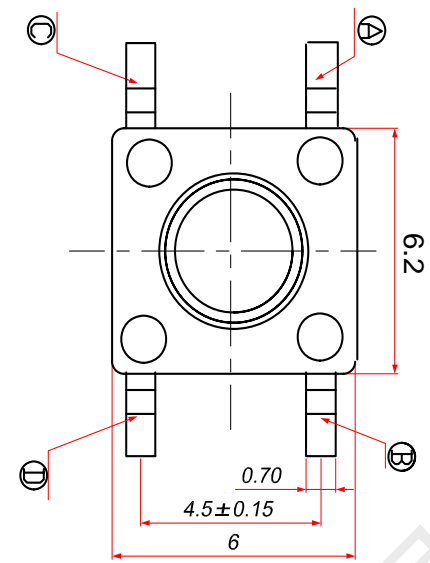
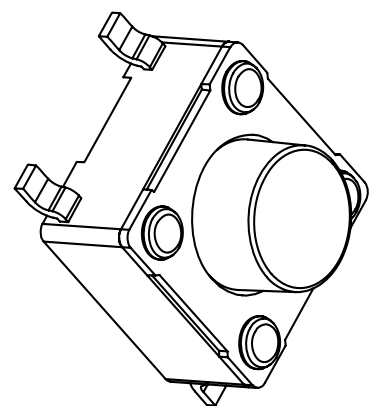
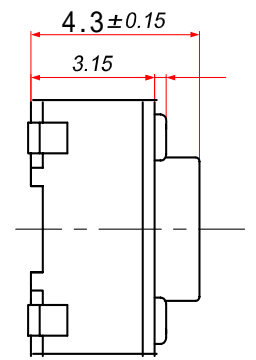
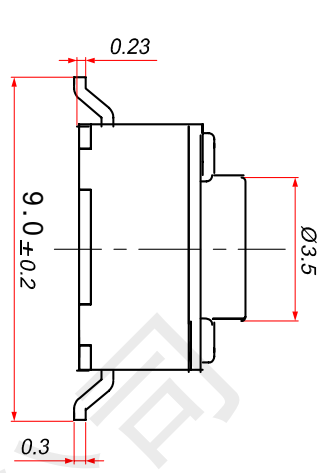
## PRODUCT SPECIFICATION

|                               |                                    |  |   |
|-------------------------------|------------------------------------|--|---|
| SIRLES                        |                                    | 系列:FLIP SWITCHES(轻触开关)   |   |
| MODEL                         |                                    | 型号: TS6643TP   |   |
| 1.RATING                      |                                    | 额定值:50mA 12V DC  |   |
| 2.CONSTRUTION DIMENSION 结构尺寸  |                                    | Apply to the appended drawing:符合附加图纸   |   |
| 3.APPEARANCE 外观               |                                    | Have no remarkable damage,crack and rust etc:无明显损伤,裂纹,锈迹等.   |   |
| 4.CONTACTLOOP 接触回路            |                                    | Monople loop:单通单极回路  |   |
| ITEM 专案                       | TEST CONDITION 测试条件                | SPECIFICATION 规格   |   |
| 5.CAPABILITY OF ELECTRIC 电气性能 |                                    |  |   |
| 5A                            | INSULATION RESISTANCE<br>绝缘电阻      | Measurements shall be made following Application of DC100V potential across terminals and across terminals and fuame for 1minute,在端子之间和端子与壳之间加 DC100V 条件下,持续 1 分钟测量. | 100M Ω min<br>100 M Ω 以上.   |
| 5B                            | WITHSTAND VILTAGE<br>耐电压           | AC250V、50HZ、1 min (imin(interrupting current ≤500uA). AC250V、50HZ、1 分钟(漏电流 500uA)  | There shall be no briakdown 无击穿现象出现。  |
| 5C                            | CONTACT CIRCUIT<br>接触电路            | Addition 1.5-2 time force on the top of the keystrok and press the switch,DC50V100mA 在按键顶端上等于作用力 1.5-2 倍的力按动开关,DC50V,10Ma.   | 50m Ω Max<br>(50m Ω 以下)   |
| 5D                            | SWITCH CONNECTION FLASH<br>开关接触点抖动 | Addition DC5V on the two side of switch,at a speed of 3-5time a sec.to press the switch.在开关的两端加 DC5V 的电压,以 3-5 次/秒的速度按动开关.   | The flash time between open not more than 10ms.<br>开关在接通和断开时的接点抖动时间不大于 10 ms. |
| 6.MECHANICAL EFFICIENCY 机械性能  |                                    |  |   |
| 6A                            | CONTACT STRENGTH<br>按键强度           | The contact shall be capable of a rorce of 5N for 5 seconds in any directions.沿开关动作方向可承受静能压力 5N, 保持 5 秒钟.  | Switch electric andmechanical efficiency does not break 无损开关电气或者机械性能          |
| 6B                            | CONTACT JOURNEY<br>按键行程            | 开关 的动作方向为垂直放置开关,并以双倍动作力的静 负荷作用推柄中心,测量推柄从开始到停止的行程 距离  | 0.30± 0.1mm   |
| 6C                            | DRIVE FORCE<br>驱动力                 | Being measure at across spring piece and across keystone forergometer.<br>用测力计在按键与弹片之 间测量.   | 按键开关驱动力为 250±50gf   |

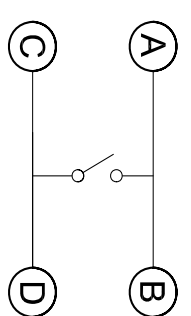
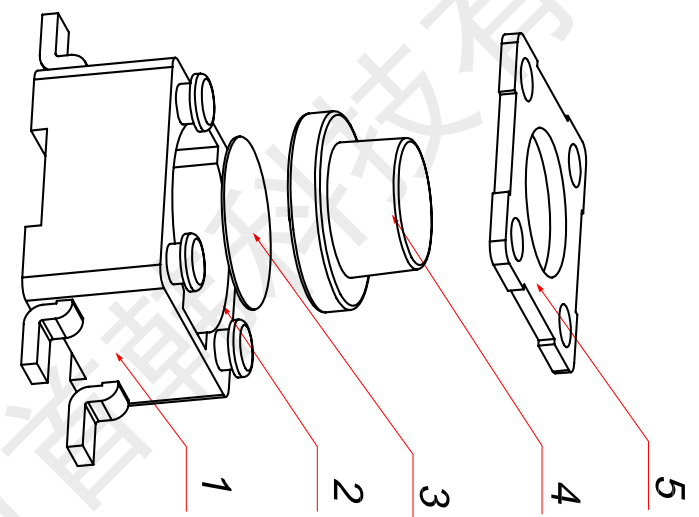


|   |   |   |  |
|---|---|---|--|
| 6D  | CONNECTION STRENGTH<br>接线端强度  | A force of 1N being applying in any directions of the switch connection partt..在接线端的作用方向施加 1N 的力.   | Switch mechanical efficiency does not break.无损开关机械性能.  |
| 6E  | MECHANICAL LIFE<br>机械寿命   | Operatin at a rate of 30-50 cycles a minute. 以 30-50 次/分的驱动速度操作.  | Life:50000cycles<br>寿命:50000次  |
| 7.ENVIRONME NT---RESISTANT EFFICIENCY 耐环境性能 |   |   |  |
| 7A  | CHANGE OF TEMPERATURE 温度变化  | The first temperature shall be 70 °C ,3h and changed to-25°C, 0.5h, 5cycles of above test. 先 70°C, 3h, 然后-25°C, 0.5h, 如此重复 5 次.   | 1. The appearance should not break.外观应无损伤.<br>2. Contact resistance $\leq 100 M \Omega$ 接触电阻 $\leq 100M\Omega$                               |
| 7B  | HUMIDITY RESISTANT<br>耐湿热   | 40 $\pm$ 2°C in temperature and 90-95%RH, Ruring thetest time without load; After testing the temperature should be 24h. 经 40 $\pm$ 2°C, 相对湿度 90-95%, 试验期间, 开关不动作, 不带电负荷, 试验后恢复到常温 24h. | 3. Insulation resistance $\geq 100 M \Omega$ . 绝缘电阻 $\geq 100 M \Omega$  |
| 8.IOINTING EFFICIENCY 焊接性能                  |   |   |  |
| 8A  | SOLDERABILITY<br>可焊性  | Temperature260 $\pm$ 5 °C ;Duration;3 $\pm$ 0.5S:温度在 260 $\pm$ 5°C, 持续 3 $\pm$ 0.5S.  | Solderability part should above 90% 可焊部分被焊料覆盖面应在 90% 以上.   |
| 8B  | SOLDER—RESISTANT<br>耐焊剂性  | Warm-up temperature:100°C,40S, 焊锡温度 260 $\pm$ 5 °C, 浸焊时间 5 $\pm$ 0.5S.  | Froth height of assist solder should under board and switch electric and mechanical efficien- cy does not break.助焊剂发泡不应超过印制板,无损伤开关电气或机械动作性能. |
| 8C  | JOINTING—RESISTANT<br>耐焊接热  | Jointing temperature: 260 $\pm$ 5 °C ,Duration of immersion: 5 $\pm$ 1S. 焊锡温度 260 $\pm$ 5°C, 浸焊时间 5 $\pm$ 1S  | efficiency does not break 无损伤开关电气或机械动作性能.  |
| 8D  | NORMAL JOLNTING TIMES<br>正常焊接次数   |   | $\leq 2$ times 小于 2 次  |
| 9.NOTES                                     |   |   |  |
| 9A  | The whole boxes of switch should keep in the temperature -30--80 °C and less than 80%RH withort acidic,alkalescence,caustic gas in the environment of the storage.<br>整箱包装的开关,应在温度为-30--80°C,相对湿度不大于 80%,周围的空气中没有酸性、碱性或其他腐蚀性气体的库房内保管。 |   |  |
| 9B  | Operating Temperature Range:-20 to 85°C<br>操作温度的范围: -20 to 85°C   |   |  |
| 9C  | Switch should install in a correct method.<br>开关应按正确的安装方法进行正确安装使用。  |   |  |

| 尺寸范围  | 未注公差值 |
|-------|-------|
| 0~3   | ±0.1  |
| 3~6   | ±0.15 |
| 6~9   | ±0.2  |
| 9~12  | ±0.25 |
| 12~15 | ±0.3  |



印制线路板  
Recommended P.C.B layout



电路简图  
SCHEMATIC

1. Rating: DC12V 50mA.
2. Travel: 0.3 ± 0.1mm
3. Operating Force: 250 ± 50gf
4. Contact Resistance: <math>50m\Omega</math>Max.
5. Life: 50,000 Cycles Min.

| 序号 | 名称 | 材料   | 颜色  | 备注  |
|----|----|------|-----|-----|
| 1  | 盖板 | 黄铜   | —   | 镀铜锡 |
| 2  | 按钮 | PA6T | 黑/白 |     |
| 3  | 弹片 | 覆银铜  | —   | 进口  |
| 4  | 底座 | PPA  | 黑   |     |
| 5  | 嵌件 | 黄铜   | —   | 镀银  |

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CUSTOMER COPY TITLE: 轻触开关

TYPE NO. TS66643TP

|               |    |           |
|---------------|----|-----------|
| PART NO.(OLD) | 料號 | A         |
| DRAWING NO.   | 圖號 | TS66643TP |
| SCALE         | 比例 | 5:1       |
| UNIT          | 單位 | mm        |
|               |    | A4        |

|                         |           |            |                   |              |              |   |        |     |     |
|-------------------------|-----------|------------|-------------------|--------------|--------------|---|--------|-----|-----|
| 工程變更通知單<br>EQM(DCN) NO. | 版本<br>REV | 日期<br>DATE | 說明<br>DESCRIPTION | 改變<br>CHANGE | 承認<br>APPRO. | GENERAL TOLERANCE<br>UNLESS OTHERWISE NOTED | DRAW   | 繪圖員 | 李春风 |
|                         | PA        | 15/03/03   |                   |              |              |   | DESIGN | 設計  |     |
|                         |           |            |                   |              |              |   | CHECK  | 校閱  | 张栋  |
|                         |           |            |                   |              |              |   | APPRO. | 承認  | 罗孝金 |