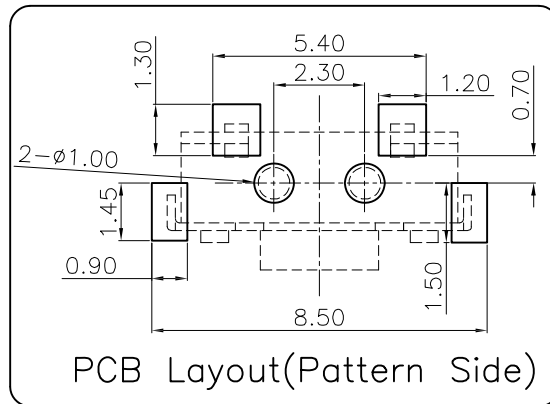
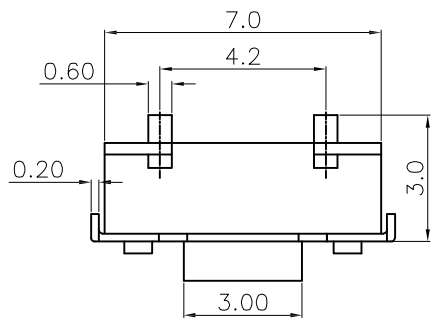
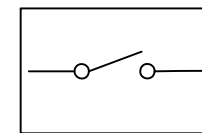
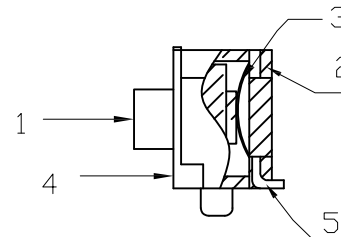
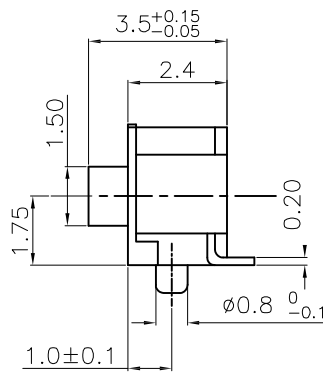
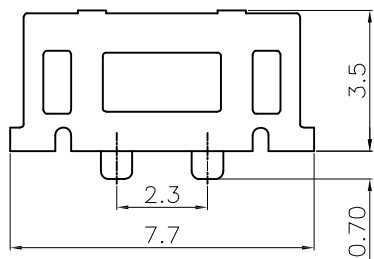


ABIDE BY ROHS



PCB Layout(Pattern Side)





Circuit Diagram

Specification :

- 1. Rating : DC12V 50mA
- 2. Contact Resistance : 100mΩ Max
- 3. Insulation Resistance : 100MΩ Min (DC250V)
- 4. Withstand Voltage : AC250V (50-60Hz) for 1 minute
- 5. Operation Force : 250 ± 50gf
- 6. Pre-Travel: 0.25 ± 0.1mm
- 7. Mechanical Life : 30,000 Cycles (min)

|  |             |      |      |
|--|-------------|------|------|
|  | TA703501S01 | 黑色   | 黑色   |
|  | TA703501S02 | 白色   | 黑色   |
|  | 料号          | 基座颜色 | 导芯颜色 |

| ITEM | PART NAME | TER'NO. | QTY. | MATERIAL        | FINISHING      | REMARK |
|------|-----------|---------|------|-----------------|----------------|--------|
| 1    | Keystoke  | —       | 1    | Nylon           | Black          |        |
| 2    | Base      | —       | 1    | Nylon           | White          |        |
| 3    | Contact   | —       | 2    | Stainless steel | Plating Silver |        |
| 4    | Shell     | —       | 1    | Brass           | Plating Tin    |        |
| 5    | Terminal  | —       | 1    | Brass           | Plating Silver |        |

|                |           |   |   |          |            |   |
|----------------|-----------|---|---|----------|------------|---|
| APPROVALS      |           | DATE  |  东莞市凯华电子有限公司<br>KAIHUA ELECTRONICS CO.,LTD |          |            |   |
| DRAWN          | wanwenxue | Oct.28.2005   |   |          |            |   |
| CHECKED        |           |   | TITLE: Tach Switch  |          |            |   |
| APPROVALS      |           |   | PART NO. CTA703501S01   |          |            |   |
| TOLERANCES ARE |           | 30<L  ±0.30<br>10<L≤30 ±0.20<br>5<L≤10  ±0.15<br>L≤5      ±0.10 | ANGLE ±2'   | UNIT: mm | SCALE: 1:1 | PROJ:  |
| ECN NO.        | REV.      | DATE.   | DESCRIPTION.  | CHANGE.  | CHECK.     | APPRO.  |

## 1. 一般特性 General Characteristics

- 1.1 额定值(Rating Value): DC12V 50mA
- 1.2 工作温度(Work Temperature Range):  $-10^{\circ}\text{C} \sim 70^{\circ}\text{C}$
- 1.3 存储温度(Store Temperature Range):  $-20^{\circ}\text{C} \sim 80^{\circ}\text{C}$
- 1.4 正常测试条件(未有特殊说明量测在以下条件进行):

General test condition (Tests and measurements shall be made under the following standard conditions unless otherwise specified):

正常温度:  $5^{\circ}\text{C} \sim 35^{\circ}\text{C}$       相对湿度: 45%~85% RH      气压: 8,600~10,600 帕  
 Temperature:  $5^{\circ}\text{C} \sim 35^{\circ}\text{C}$       Relative humidity: 45%~85%      Air pressure: 8,600~10,600 pa

## 2. 产品外观及尺寸要求 Appearance & Dimension Requirement

- 2.1 产品外形结构紧凑, 无配合不良.  
The structure of product is compact, and assembly of parts has no badness.
- 2.2 产品塑胶部件无严重缩水、披锋、欠注、斑点、破损或变形现象.  
The plastic parts of product have no serious defects such as very serious shrink, scarcity, fleck, disrepair, transmutation, etc.
- 2.3 产品引脚和外壳无严重氧化、脏污、变形、毛刺或电镀不良.  
Lead feet and shell have no serious defects such as oxidation, smudge, disrepair, burr, defects on plating.
- 2.4 开关操作顺畅, 节奏感强, 无明显卡塞现象.  
Operating switch is unhindered, rhythmmed, and there is not palpable clag.
- 2.5 产品结构及尺寸参见产品规格图纸.  
Construction and dimensions: Refer to individual product drawing.

## 3. 电气特性 Electronic Characteristics

| No. | 项 目<br>Item                          | 测试方法<br>Test Method   | 测试设备<br>Equipment                     | 特性要求<br>Requirements   |
|-----|--------------------------------------|---|---------------------------------------|--|
| 3.1 | 接触电阻<br>Contact Resistance           | 在低电流 ( $\leq 100\text{mA}$ ) 条件下测试.<br>Measured at low current (100mA or less).   | 低电阻测试仪<br>Low Resistance Meter        | $100\text{m}\Omega$ max  |
| 3.2 | 绝缘阻抗<br>Insulation Resistance        | 测试相邻引脚之间, 引脚与外壳之间的绝缘阻抗(DC 250V).<br>Measurement shall be made between adjacent terminals, between terminal and shell.   | 绝缘测试机<br>Insulation Resistance Tester | $100\text{M}\Omega$ min  |
| 3.3 | 耐压测试<br>Dielectric Withstand Voltage | 输入一定电压(50-60Hz, 电压值 AC 250V) 1 分钟, 漏电流为 2mA, 测试邻近端子间.<br>Apply certain voltage (50-60Hz, AC 250V) for 1 minute between adjacent contacts of the connector with 2mA leakage sensitivity. | 耐压测试机<br>Puncture Tester              | 没有绝缘破坏. 电弧等异常.<br>No arcing, break down and damaging insulation. |

**4. 机械特性 Mechanical Characteristics**

| No. | 项 目<br>Item              | 测试方法<br>Test Method  | 测试设备<br>Equipment           | 特性要求<br>Requirements |
|-----|--------------------------|--|-----------------------------|----------------------|
| 4.1 | 操 作 力<br>Operation Force | 逐渐施力操作开关按键，测量开关到达全部工作行程时所需的最大操作力度。<br>Operate the keystroke of the switch and then increase press strength gradually, Measured maximum operation force while the travel of the switch is full. | 测力计<br><br>Force Gauge      | 250±50gf             |
| 4.2 | 行 程<br>Full travel       | 垂直操作开关按键，量测开关顶端最大移动距离。<br>Operate the keystroke of the switch vertically, the travel distance of keystroke moving from its free position to maximum moving distance shall be measurement.      | 游标卡尺<br><br>Vernier Caliper | 0.25±0.1mm           |

**5. 可靠性测试 Reliability trial**

| No. | 项 目<br>Item               | 测试方法<br>Test Method   | 测试设备<br>Equipment        | 特性要求<br>Requirements  |
|-----|---------------------------|---|--------------------------|---|
| 5.1 | 可焊性试验 Solder ability Test | 端子顶部被浸入焊锡炉中，温度为260±5℃，时间5±1秒。<br>The top of the terminals shall be dipped in the solder bath at 260±5℃ for 5±1 seconds. | 控温锡炉<br><br>Solder Stove | 引脚至少95%上锡。<br>95% percent of terminals shall be dipped.   |
| 5.2 | 寿命试验<br>Operation Life    | 开关在寿命试验设备上以约20次/分的速度连续被操作，具体次数见规格图示。<br>Switch shall be operated continuously at about 20 cycles /min without load.     | 寿命试验机<br><br>Life Tester | 寿命：30,000 次<br>实验后：绝缘电阻：10MΩ Min<br>接触电阻：10 Max<br>操作力：变化在±50%内<br>开关外观及结构无损坏。<br>Life test:30,000cycles<br>After test:<br>Insulation resistance:<br>10MΩ Min<br>Contact Resistance:10 Max<br>Operating force: Change should be within ±50% of specified value.<br>No abnormalities shall be recognized in appearance and construction. |

**5. 可靠性测试 Reliability trial**

| No. | 项目<br>Item                           | 测试方法<br>Test Method   | 测试设备<br>Equipment                              | 特性要求<br>Requirements  |
|-----|--------------------------------------|---|--|---|
| 5.3 | 耐焊接热<br>Resistance to Soldering heat | 端子焊接部分浸入焊炉，焊炉温度 $260 \pm 5^\circ\text{C}$ ，焊接时间 $5 \pm 1$ 秒。（焊接时不可于端子施加外力）。<br>Terminals shall be dipped in the solder bath at $260 \pm 5^\circ\text{C}$ for $5 \pm 1$ seconds without additional force for terminals.  | 控温锡炉<br>Solder Stove                           | 本体无变形，能满足于机械、电气性能。<br>Appearance should be not damaged, electrical and mechanical characteristics shall be satisfied. |
| 5.4 | 耐高温测试<br>Resistance to Heat Test     | 放置在温度 $80 \pm 2^\circ\text{C}$ 环境中 96 小时后，再置于正常条件下 1 小时后测定。<br>The switch shall be stored at a temperature of $80 \pm 2^\circ\text{C}$ for 96 hours, Measurements shall be made after it be subjected to the standard conditions for 1 hour.  | 高低温试验机<br>High & Low Temperature Tester        | 外观，机械及电气性能均符合要求。<br>Appearance, electrical and mechanical characteristics shall be satisfied.                         |
| 5.5 | 耐低温测试<br>Resistance to Cold Test     | 放置在温度 $-25 \pm 2^\circ\text{C}$ 环境中 96 小时后，再置于正常条件下 1 小时后测定。<br>The switch shall be stored at a temperature of $-25 \pm 2^\circ\text{C}$ for 96 hours, Measurements shall be made after it be subjected to the standard conditions for 1 hour.  | 高低温试验机<br>High & Low Temperature Tester        | 外观，机械及电气性能均符合要求。<br>Appearance, electrical and mechanical characteristics shall be satisfied.                         |
| 5.6 | 耐湿性测试<br>Resistance to Humidity Test | 放置于温度 $40 \pm 2^\circ\text{C}$ ，相对湿度为 90~96% 环境中 96 小时后，再置于正常条件下 1 小时后测定（注意要擦去水滴）。<br>The switch shall be stored at a temperature of $40 \pm 2^\circ\text{C}$ , relative humidity 90~96% for 96 hours, Measurements shall be made after it be subjected to the standard conditions for 1 hour (Wipe out water drip).  | 恒温恒湿箱<br>Temperature & Humidity Tester Chamber | 外观，机械及电气性能均符合要求。<br>Appearance, electrical and mechanical characteristics shall be satisfied.                         |
| 5.7 | 盐雾实验<br>Salt Mist Test               | 试件在下述实验后测量：<br>1. 温度： $35 \pm 5^\circ\text{C}$<br>2. 盐溶液浓度： $5 \pm 1\%$ （质量百分比），<br>3. 试验时间：8 小时，<br>4. 试验后，将盐沉积物用水冲掉。<br>The switch shall be checked after following test:<br>1. Temperature: $35 \pm 5^\circ\text{C}$<br>2. Salt solution: $5 \pm 1\%$ (Solids by mass)<br>3. Duration: 8 hours,<br>4. After immersing, salt deposit shall be removed by running water. | 盐雾试验机<br>Salt Spray Tester                     | 在金属件上没有严重腐蚀斑点。<br>No remarkable corrosion shall be recognized in metal parts.   |

## 6. 注意事项 Precaution

### 6.1 浸焊条件 Soldering condition

| 项目 Item                     | 条件 Condition  |
|-----------------------------|---|
| 预热温度<br>Preheat temperature | 110° C 以下(印刷基板焊锡面周围的温度) 110° C max (Embilomental temperature of soldering surface of P.W.E) |
| 预热时间 Preheat time           | 60 秒以内. 60 sec max  |
| 助焊剂的面积 Area of flux         | 印刷基板厚度的 1/2 以内. 1/2 max of P.W.B thickness  |
| 焊锡温度 Temperature of solder  | 260° C 以下. 260° C max.  |
| 浸焊时间 Time of immersion      | 5 秒以内. Within 5 sec.  |
| 浸焊次数 Soldering number       | 2 次以内 (但应把第一次焊锡的温度降下来) Within 2 times (But should bring down heat of the first soldering )  |
| 印刷基板 Printed wiring board   | 单面铜箔 Single sided copper-clad laminates   |

- 1) 开关浸焊后, 注意不要用溶剂清洗.

After switches were soldered, please be careful not to clean sample with solvent.

- 2) 在使用烙铁的情况下, 焊锡温度应在 300° C 以下, 3 秒以内.

In the casw of using iron, soldering conditions shall be 300° C max and 3 sec.

- 3) 浸锡后注意不要在顶部施加负荷.

Right after sample were soldered; please be careful not to load on the knobs of switches.

### 6.2 设计中应注意的事项 Design instructions

- 1) 印刷基板的安装孔尺寸参见产品图.

Follow recommended P.W.B piercing plan in outside drawong page.

- 2) 击键部倾斜度在4度以内. Design inclination of key top 4 deg.

### 6.2 注意点 Note

- 1) 注意不要施加超负荷的压力或晃动开关.

Please be cautious not to give excessive static load or shock to switches.

- 2) 开关焊接后, 印刷基板不要叠放.

Please be careful not to pole up P.W.B. after switches were soldered.

- 3) 保存时要注意避开高温高湿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.

Preservation under high temperature and high humidity or corrosove gas should be avoided especialluy. When you need to preserve for a long period, do not open the carton.

- 4) 产品符合 Rohs 和 WEEE 环境管制标准.

Control hazardous substance: The product should BE meet. Abide BY Rohs & WEEE Specification.

## X-ON Electronics

Largest Supplier of Electrical and Electronic Components

*Click to view similar products for [Tactile Switches](#) category:*

*Click to view products by [Kailh](#) manufacturer:*

Other Similar products are found below :

[5GTH92001](#) [5GTH9202242](#) [6407-250V-25273P](#) [ADTSA62NV](#) [ADTSA62RV](#) [B3F-3123](#) [1977177-8](#) [1977266-1](#) [ADTSA63NV](#)  
[ADTSM21NSVTR](#) [ADTSM25RVTR](#) [ADTSM32NVTR](#) [ADTSMW64RV](#) [FSMRA4JHA04](#) [GS4.70F300QP](#) [3ESH9R](#) [KSC241J](#) [SP DELTA](#)  
[LFS](#) [3FTL600RAS](#) [3FTL640RAS](#) [Y96K132V0FPLFS](#) [5GTH9658222](#) [ADTSM31NVTR](#) [2-1977120-7](#) [TSJW-5.2-260-TR](#)  
[KMT011MNGJLHS](#) [70-201.0](#) [ADTSG648NV](#) [ADTSM62KSVTR](#) [ADTSM648NV](#) [95C06E3RAT](#) [5GTH96561](#) [3ATH9Q](#) [FSM4JSMLXTR](#)  
[FSM4JSMXL](#) [FSMRA8JHA04](#) [HARS0073](#) [Y97HS12A5RAFP](#) [Y97BT23B2HAFP](#) [Y33R411N9FPLFT](#) [Y31C01402FPLFS](#)  
[PTS645SK50SMTR92](#) [ADTSM32NVB](#) [KMS233GPWTLFG](#) [Y78B42324FP](#) [Y33R21116FPLFT](#) [Y31B43131FPLFG](#) [Y78B64124FP](#)  
[Y71243251FP](#) [Y33R31119FPLFT](#) [Y97HS12A5TAFP](#)