



| SPECIFICATION<br>规格书                 |   | 规格书编号   | CF-SPE-TS003     |
|--------------------------------------|---|---|------------------|
|                                      |   | 版本  | A / 0            |
|                                      |   | 页次  | 1 / 3            |
|                                      |   | 确认日期  | 2005.1.11<br>韦瑞斌 |
| WRITTEN 制定                           |   | APP'D审批   |                  |
| MODEL SERIES NAME 系列名称:              |   | TACT SWITCH   |                  |
| MODEL NO 产品型号:                       |   | TS-33-BS-2  |                  |
| 1.RATING 额定值:                        |   | DC 12V 50mA   |                  |
| 2.ELECTRICAL CHARACTERISTICS 电气性能规格: |   |   |                  |
| ITEM 项目                              | TEST CONDITIONS 测试条件  | PERFORMANCE 表现  |                  |
| 2.1                                  | CONTACT RESISTANCE<br>接触电阻<br>MEASURED AT SMALL CURRENT (100mA OR LESS)<br>1000Hz.<br>在微小电流(100mA)以下测试.   | 30mΩ Max<br>30毫欧以下  |                  |
| 2.2                                  | INSULATION RESISTANCE<br>绝缘电阻<br>APPLY A VOLTAGE OF 100V DC FOR 1 MIN. TO FOLLOWING PORTIONS AFTER WHICH MEASUREMENT SHALL BE MADE:<br>(1) BETWEEN BODY AND CONDUCTOR.<br>(2) BETWEEN CONDUCTOR NOT TO BE CONTACT.<br>输入100V DC 电压1分钟, 按以下接触方法测试:<br>(1)接触端子之间.<br>(2)插座体与排脚之间. | 100MΩ MIN.<br>100兆欧以上   |                  |
| 2.3                                  | DIELECTRIC STRENGTH<br>耐电压<br>AC 250V rms(50-60Hz)FOR 1 MIN TRIP CURRENT:0.5 mA<br>(1) BETWEEN TERMINALS.<br>(2) BETWEEN INDIVIDUAL TERMINALS AND FRAME.<br>输入AC 250V (50-60Hz) 电压,1分钟感应电流为0.5mA.按以下接触方法测试:<br>(1)接触端子之间.<br>(2)插座体与端子之间.                                       | NO DAMAGE TO PARTS<br>ARCING, OR BREAKDOWN ETC.<br>没有绝缘破坏等异常. |                  |
| 3                                    | PRACTICAL TEMPERATURE RANGE<br>使用温度范围<br>-16℃~+60℃<br>在-16℃~+60℃ 温度内使用  |   |                  |



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| ITEM 项目                               | TEST CONDITIONS 测试条件                      | PERFORMANCE 表现   |  |  |
| 4                                     | STANDARD ATMOSPHERIC CONDITIONS<br>测试标准状态 | UNLESS OTHERWISE SPECIFIED, THE STANDARD RANGE OF ATMOSPHERIC CONDITIONS FOR MAKING MEASUREMENTS AND TESTS ARE AS FOLLOWS:<br>(1) AMBIENT TEMPERATURE: 5°C TO 35°C.<br>(2) RELATIVE HUMIDITY: 45% TO 85%.<br>(3) AIR PRESSURE: 80Kpa TO 106Kpa.<br>在没有指定的情况下测试温度,湿度,气压如下:<br>(1) 温度为5°C~35°C.<br>(2) 湿度为45%~85%.<br>(3) 气压为80Kpa~106Kpa. |  |  |
| 5. MECHANICAL CHARACTERISTICS 机械性能规格: |   |  |  |  |
| ITEM 项目                               | TEST CONDITIONS 测试条件                      | PERFORMANCE 表现   |  |  |
| 5.1                                   | OPERATION FORCE<br>作动力                    | 160gf±30gf   |  |  |
| 5.2                                   | TERMINAL STRENGTH<br>端子强度                 | A STATIC LOAD OF 300gf SHALL BE APPLIED TO THE TIP OF THE TERMINAL FOR 1 MIN. IN ANY DIRECTION.<br>在任意一个方向的前端加上300gf力度测试,时间为1分钟.   | ELECTRICAL CHARACTERISTICS SHALL BE SATISFIED WITHOUT DAMAGE OR EXCESSIVE LOOSENESS OF TERMINALS<br>在排脚中没有裂开,松动等异常,满足于机械,电器性能.                   |  |
| 5.3                                   | LIFE TEST<br>寿命测试                         | 1. ENDURANCE WITHOUT LOADING:<br>A SWITCH SHALL BE SUBJECTED TO 100,000 CYCLES AT A SPEED OF 40-50 CYCLES FOR 1 MIN.<br>无负荷:<br>在无负荷的条件下以每分钟40-50回的速度进行100,000次的测试.<br>2. ENDURANCE WITH LOADING:<br>A SWITCH SHALL BE SUBJECTED TO 80,000 CYCLES AT A SPEED OF 40-50 CYCLES FOR 1 MIN.<br>负荷:<br>在负荷的条件下以每分钟40-50次的频率作80,000回之负荷测试.     | (1) CONTACT RESISTANCE SHALL BE 50mΩ MAX.<br>接触电阻不能超过50毫欧.<br>(2) MECHANICAL AND ELECTRICAL CHARACTERISTICS SHALL BE SATISFIED.<br>其它满足于机械,电器性能. |  |
| 6. DURABILITY 耐久性:                    |   |  |  |  |
| ITEM 项目                               | TEST CONDITIONS 测试条件                      | PERFORMANCE 表现   |  |  |
| 6.1                                   | SOLDERABILITY TEST<br>可焊性试验               | THE TOP OF THE TERMINALS SHALL BE DIPPED 2mm IN THE SOLDER BATH OF 230±5°C FOR 3±0.5 SECONDS.<br>端子顶部被浸入锡焊池中2mm深,温度为230±5°C,时间为3±0.5秒.   | AREA OF SOLDERING NEED BE SMOOTH AND GOOD PERFORMANCE.<br>焊锡部分粘锡均匀,饱满,锡面平滑.  |  |

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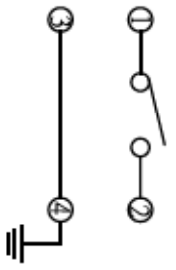
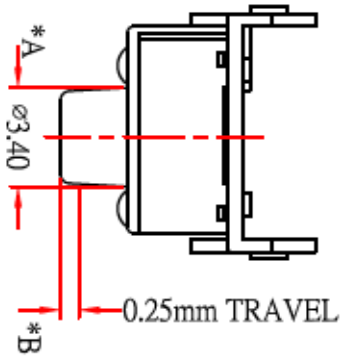
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2011.11.11

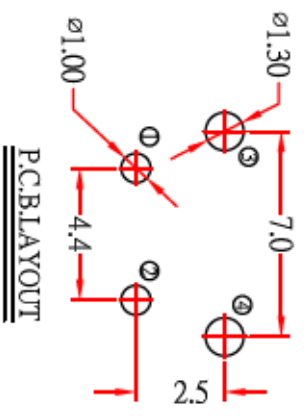
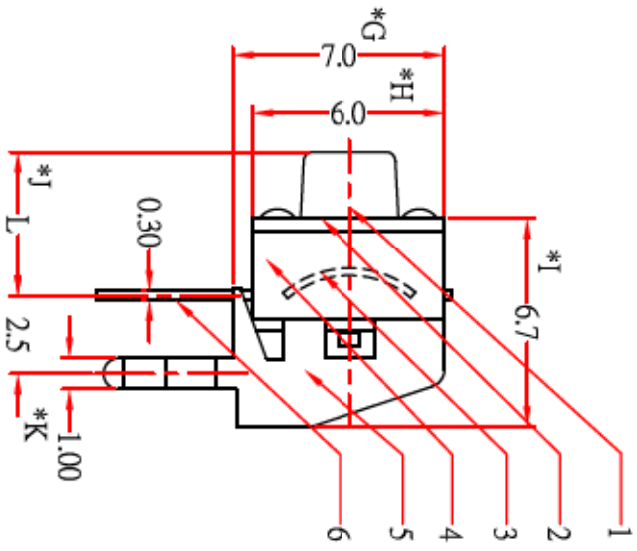
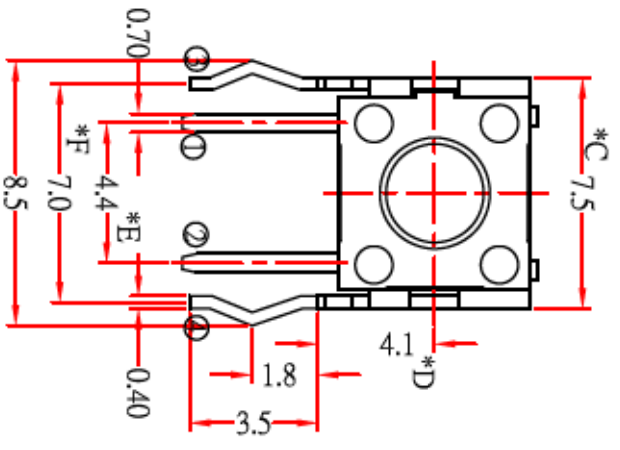
志丰电子

印刷部

| ITEM 项目 |   | TEST CONDITIONS 测试条件  | PERFORMANCE 表现  |
|---------|---|---|---|
| 6.2     | RESISTANCE TO SOLDERING<br>HEAT TEST<br>耐焊性试验 | <p>SOLDER BATH METHOD:<br/>SOLDER TEMPERATURE <math>260 \pm 5^{\circ}\text{C}</math>, IMMERSION TIME <math>3 \pm 0.5</math> SEC, IMMERSION DEPTH UP TO THE SURFACE OF THE BOARD THICKNESS OF PRINTED WIRING BOARD 1.6 mm DIMENSIONS OF COMPONENT HOLES IN THE PRINTED WIRING BOARD SHALL BE ACCORDANCE TO THE SPECIFICATION.</p> <p>焊炉焊接的时候温度控制在 <math>260 \pm 5^{\circ}\text{C}</math>, 过炉时间 <math>3 \pm 0.5</math> 秒, 于(基板)厚度应 1.6mm.</p> | <p>WITHOUT DEFORMATION OF CASE OR EXCESSIVE LOOSENESS OF TERMINALS ELECTRICAL CHARACTERISTICS SHALL BE SATISFIED.</p> <p>本体无变形, 能满足于机械, 电器性能.</p> |
| 6.3     | HEAT TEST<br>耐热试验                             | <p>THE SWITCH SHALL BE STORED AT A TEMPERATURE OF <math>85 \pm 2^{\circ}\text{C}</math> FOR 96 HOURS. THEN THE SWITCH SHALL BE MAINTAINED AT STANDARD ATMOSPHERIC CONDITION FOR 1 HOUR AFTER WHICH MEASUREMENT SHALL BE MADE.</p> <p>放置在温度 <math>85 \pm 2^{\circ}\text{C}</math> 中测试 96 小时后, 再放置正常室温中 1 小时来测定.</p>  |   |
| 6.4     | COLD TEST<br>耐冷试验                             | <p>THE SWITCH SHALL BE STORED AT A TEMPERATURE OF <math>-20 \pm 3^{\circ}\text{C}</math> FOR 96 HOURS, THEN THE SWITCH SHALL BE MAINTAINED AT STANDARD ATMOSPHERIC CONDITION FOR 1 HOUR AFTER WHICH MEASUREMENT SHALL BE MADE.</p> <p>放置在温度 <math>-20 \pm 3^{\circ}\text{C}</math> 中 96 小时后, 再放置常温中 1 小时来进行测试.</p>  | <p>THERE SHALL BE NO DEFORMATION OR CRACKS IN MOLDED PART.</p> <p>外观无异常, 满足于机械, 电器性能.</p>   |
| 6.5     | HUMIDITY TEST<br>潮湿试验                         | <p>THE SWITCH SHALL BE STORED AT A TEMPERATURE OF <math>40 \pm 2^{\circ}\text{C}</math> AND A HUMIDITY OF 90% TO 96% FOR 96 HOURS. THEN THE SWITCH SHALL BE MAINTAINED AT STANDARD ATMOSPHERE CONDITION FOR 1 HOUR AFTER WHICH MEASUREMENT SHALL BE MADE.</p> <p>放置 <math>40 \pm 2^{\circ}\text{C}</math> 试验的相对湿度为 90%-96% 环境中 96 小时后, 再将样板放在正常环境 1 小时后进行测试.</p>  |   |



SCHMATIC



\* CRITICAL DIMENSION

| REVISION |                        | DATE       |
|----------|------------------------|------------|
| POSITION | DESCRIPTION            | 2008-06-24 |
| Δ        | Add table(stem height) |            |

ΔTable:stem height

| L= (height) | A       | B       | C       | D       | E        |
|-------------|---------|---------|---------|---------|----------|
|             | 3.15 mm | 3.85 mm | 5.85 mm | 8.35 mm | 11.85 mm |

| F= (force) | I      | L      | S      | H      |
|------------|--------|--------|--------|--------|
|            | 100 gF | 130 gF | 160 gF | 250 gF |

CHI FUNG ELECTRONICS CO.,LTD.



SERIES : TACT SWITCH  
 PART NAME: TS-33-LF-2  
 UNIT : M.M  
 SCALE : 5:1  
 REV : A/1

DRAWING NO: CF-ENT-TS4315  
 GENERAL TOLERANCE  
 WITHIN 0.XXmm±0.15mm  
 OVER 0.Xmm±0.25mm

| NO. | TERMINAL  | BRASS     | AG COATING |
|-----|-----------|-----------|------------|
| 6   | TERMINAL  | BRASS     | AG COATING |
| 5   | FRAME     | SPN STRIP | Sn COATING |
| 4   | CASE      | PA66      | BLACK      |
| 3   | CONTACT   | C5210R-EH | AG CLAD    |
| 2   | COVER     | SPN STRIP | Ni COATING |
| 1   | STEM      | PA66      | BLACK      |
|     | PART NAME | MATERIAL  | FINISHING  |