



# 温州瀚精电子有限公司

WENZHOU HANJING ELECTRONIC CO., LTD.

## 承 認 書

PRODUCT APPROVAL SHEET

产品名称 PRODUCT Name : 轻触开关

规格型号 PART NO : 6\*6 短脚上支架

物料号 PART NO : TS-H002\*\*\*

|                                                   |                                                  |                                                   |                                                                                      |
|---------------------------------------------------|--------------------------------------------------|---------------------------------------------------|--------------------------------------------------------------------------------------|
| 制表/DESIGNED BY<br><br>吴永余<br><br>DATE 日期 20201117 | 校对/CHECKED BY<br><br>吴永友<br><br>DATE 日期 20201117 | 审核/APPROVED BY<br><br>张 鹏<br><br>DATE 日期 20201117 |  |
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贵司承认栏 APPROVAL SIGNATURE

贵司名称/CUSTOMER NAME: \_\_\_\_\_

贵司物料名称/CUSTOMER TYPE: \_\_\_\_\_

贵司物料号/CUSTOMER NO: \_\_\_\_\_

请于\_\_\_\_\_年\_\_\_\_\_月\_\_\_\_\_日前承认返 日期 DATE: \_\_\_\_\_

PLEASE RETURN TO US AFTER CONFIRMED! THANK YOU!



WENZHOU HANJING ELECTRONICS CO., LTD.

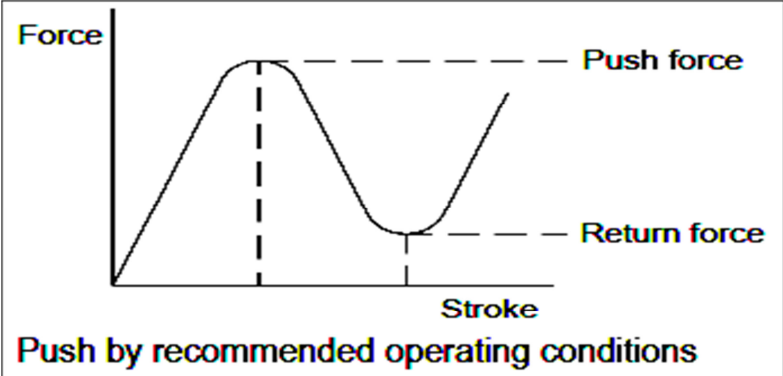
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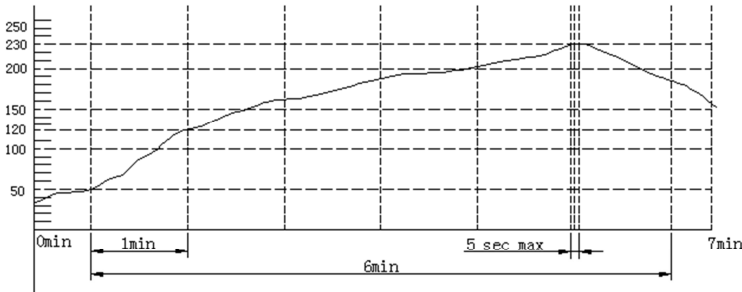
电话(Tel): 0577-62317178 传真(Fax): 0577-62311178 <http://www.wzhjele.com>

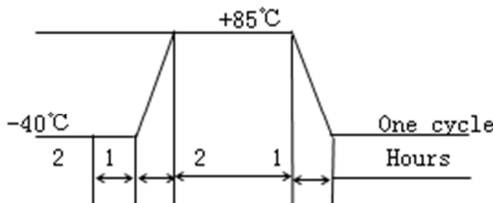
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| WENZHOU HANJING ELECTRONICS CO., LTD.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |            |      | 产品系列  | 轻触开关        |
| TACT SWITCH SPECIFICATION<br>轻触开关产品承认书                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |            |      |       |             |
| <p>1、概述 GENERAL</p> <p>1.1 适用范围 APPLICATION</p> <p>此规格书适用于机械式轻触开关的相关要求</p> <p>This specification is applied to the requirements for TACTILE SWITCH(MECHANICAL CONTACT)</p> <p>1.2 工作温度范围</p> <p>Operating Temperature Range</p> <p>-20℃~70℃ (在标准大气压、标准温度条件下)</p> <p>-20℃~70℃ (Normal humidity, normal air pressure)</p> <p>1.3 贮藏温度范围</p> <p>Storage Temperature Rane</p> <p>-40℃~85℃ (在标准大气压、标准温度条件下)</p> <p>-40℃~85℃ (Normal humidity, normal air pressure)</p> <p>1.4 测试条件</p> <p>Test Conditions</p> <p>在没有其它特定的条件下，应该在以下的条件下进行测试和测量：</p> <p>Unless otherwise specified, tests and measurement shall be made in the following standard conditions</p> <p>常温.....5℃~35℃</p> <p>Normal temperature.....5℃~35℃</p> <p>标准湿度.....相对湿度 45%~85%</p> <p>Normal humidity.....relative humidity 45%~85%</p> <p>标准大气压.....86KPa~106 KPa</p> <p>Normal air pressure.....86KPa~106 KPa</p> <p>在制造过程中，测试和测量应该在以下的条件下进行：</p> <p>If any doubt arise from the judgment, tests shall be conducted at the following conditions</p> <p>温度.....20℃±2℃</p> <p>Temperature.....20℃±2℃</p> <p>相对湿度.....65%±5%</p> <p>Relative humidity.....65%±5%</p> <p>环境气压.....86KPa~106 KPa</p> <p>Air pressure.....86KPa~106 KPa</p> <p>2、详细说明 Detailed specification</p> <p>2.1 外观：应无影响、降低产品性能的缺陷</p> <p>Appearance:There should be no defects that affect the serviceability of product.</p> <p>2.2 结构尺寸和安装尺寸：应符合装配图要求</p> <p>Style and dimension:shall conform to the assemble drawings.</p> |            |      |       |             |
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| WENZHOU HANJING ELECTRONICS CO., LTD.                                                                                                                                                                                                                            |            |                                                                                      | 产品系列  | 轻触开关        |
| TACT SWITCH SPECIFICATION<br>轻触开关产品承认书                                                                                                                                                                                                                           |            |                                                                                      |       |             |
| 2.3 操作形式：有触觉反应的操作<br>Type of actuating:Tactile feedback.<br>2.4 开关结构：单回路输出（具体的触点结构在装配图中已绘出）<br>Contact arrangement:1 pole,1 throw<br>(Details of contact arrangement are given in the assembly drawings.)<br>2.5 开关工作额定值：DC12V 50mA<br>Ratings: DC12V 50mA       |            |                                                                                      |       |             |
| 测试项目 TEST ITEM                                                                                                                                                                                                                                                   |            |                                                                                      |       |             |
| 3. 电器性能 ELECTRICAL PERFORMANCE                                                                                                                                                                                                                                   |            |                                                                                      |       |             |
| 3-1 接触电阻 CONTACT RESISTANCE<br>在 1kHz 小电流电压（50mA，20mV）下测量。<br>Being tested at 1kHz small current and voltage (50mA，20mV) by contact resistance meter.<br>100 毫欧以下。<br>100mΩ max.                                                                                 |            |                                                                                      |       |             |
| 3-2 绝缘电阻 INSULATION RESISTANCE<br>在端子之间和端子与壳之间加 DC250V 条件下，持续 1 分钟测量。<br>DC 250v shall be applied for test between terminals and between terminals and frame for one minute.<br>100 兆欧以上。<br>100MΩ min.                                                          |            |                                                                                      |       |             |
| 3-3 耐电压 WITHSTAND VOLTAGE<br>在端子之间和端子于壳之间加 AC250V（50Hz 或 60Hz）感应电流 1mA 条件下，持续 1 分钟测量。<br>AC 250V and induction current 1mA shall be applied for test between terminals and between terminals and frame for one minute.<br>无击穿现象。<br>There shall be no breakdown. |            |                                                                                      |       |             |
| 4. 机械性能 MECHANICAL PERFORMANCE                                                                                                                                                                                                                                   |            |                                                                                      |       |             |
| 4-1 动作力 OPERATING FORCE<br><br>160±30gf<br>260±50gf                                                                                                                                                                                                              |            |  |       |             |
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| TACT SWITCH SPECIFICATION<br>轻触开关产品承认书                                                                                                                                                                                                                                                                                                                      |            |    |       |             |
| <p>4-2 行程 TRIP</p> <p>给开关施加动作力 2 倍不变的力，开关停止时的移动距离。</p> <p>The force exerted 2 times the constant force on the switch and the moving distance at the switch stop.</p> <p>0.25±0.1mm</p>                                                                                                                                                                      |            |    |       |             |
| <p>4-3 手感值 HAND VALUE</p> <p>开关按力减去回弹力的差值所占开关按力的百分比 Hand value: 30-70%</p> <p>Percentage of switching pressures by the difference of switching pressures minus resilience.</p> <p>手感值: 30-70%</p>                                                                                                                                                           |            |    |       |             |
| <p>4-4 端子强度 TERMINAL STRENGTH</p> <p>一个 300 克之静负荷施加端子顶部的一个方向持续 1 分钟。</p> <p>A static force of 300g being applied in one direction on the tip of the terminal for 1 minute.</p> <p>无任何迹象显示机械及电器性能之损坏。</p> <p>There shall be of mechanical and electrical damage.</p>                                                                                         |            |    |       |             |
| <p>4-5 手柄强度 KNOB STRENGTH</p> <p>开关垂直于操作方向放置，从操作方向向驱动件施加2KG的静负荷持续1min。</p> <p>Placing the switch such that the direction of switch operation is vertical, and then a static load of 2KG shall be applied in the direction of stem operation for a period of 1 min.</p> <p>无任何迹象显示机械及电器性能之损坏。</p> <p>There shall be of mechanical and electrical damage.</p> |            |    |       |             |
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| TACT SWITCH SPECIFICATION<br>轻触开关产品承认书                                                                                                                                                                                                                                                                                                                                                                                                                                                     |              |      |       |             |
| 5. 耐久性 DURABILITY                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |              |      |       |             |
| 5-1 可焊性试验 SOLDERING TEST                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |              |      |       |             |
| <p>端子顶部被侵入锡池 0.5mm 深，温度 260±5℃，时间 5秒。</p> <p>The tip of the terminal shall be dipped 0.5mm in the solder bath within temperature of 260±5℃ for 5s.</p> <p>侵入的部分 95%以上表面将被锡覆盖</p> <p>Over 95% of the immersed surface was covered by tin .</p>                                                                                                                                                                                                                                              |              |      |       |             |
| 5-2 耐焊性试验 SOLDERING RESISTANT TEST                                                                                                                                                                                                                                                                                                                                                                                                                                                         |              |      |       |             |
| <p>焊炉锡的温度控制在 260±5℃，时间为 3±0.5 秒, 与(基板)厚度 1.6mm.</p> <p>Soldering temperature 260±5℃, soldering time 3±0.5s, immersion depth up to the surface of the board, thickness of PCB 1.6mm.</p> <p>手焊接时温度控制在 350±5℃，时间为 3±0.5 秒，但不能在端子上施加异常压力。</p> <p>Manual soldering temperature350±5℃, soldering time 3±0.5s,however excessive pressure shall not be applied to the terminal.</p> <p>本体无变形, 能满足与机械、电器性能。</p> <p>Without deformation of case or excessive looseness of electrical properties</p> |              |      |       |             |
| 5-3 波峰焊接熱試驗 WAVE SOLDERING HEAR TEST                                                                                                                                                                                                                                                                                                                                                                                                                                                       |              |      |       |             |
| <p>本体无变形, 能满足与机械、电器性能。</p> <p>Without deformation of case or excessive looseness of electrical properties</p>                                                                                                                                                                                                                                                                                                                                                                              |              |      |       |             |
| <div><p style="text-align: center;">Time inside soldering equipment</p><p style="text-align: center;"><u>Temperature Profile</u></p></div>                                                                                                                                                                                                                                                             |              |      |       |             |
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| TACT SWITCH SPECIFICATION<br>轻触开关产品承认书                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |              |                                                                                                                                                                                                                                                                                               |       |             |
| 5-4 寿命测试 LIFE TEST<br>无负载条件，每分钟 100-120 次的速度操作 100，000 次。<br>100，000cycles of operation at a rate of 100-120 cycles per minute with unloading<br>(1) 接触电阻 200 毫欧以下。Contact resistance200mΩ<br>(2) 动作力变化范围初始值 30%。Operating force 30% initial value.<br>(3) ITEM 项目——1.2<br>(4) ITEM 项目——1.3<br>(5) ITEM 项目——2.2                                                                                                                                                                                                                                                                                                                                 |              |                                                                                                                                                                                                                                                                                               |       |             |
| 5-5 盐雾 SAIL SPRA<br>1) 测试温度：35±2℃ Temperature: 35±2℃<br>2)循环次数：4小时喷雾 1 小时停, 连续 1次. 喷雾 4 小时. Cycle:4 Hours testing(1Times) and 1 Hours stop. Based on total 4 hours.<br>3) 盐雾浓度：5±1% Salt solution concentration: 5±1% by weight.<br>(1) 接触电阻 200 毫欧以下。Contact resistance200mΩ.<br>(2) 绝缘电阻 100 兆欧以上. Insulation resistance 100MΩ min.<br>(3) 无任何迹象显示机械及电器性能之损坏<br>there shall be no sign of mechanical and electrical damage.                                                                                                                                                                                                                   |              |                                                                                                                                                                                                                                                                                               |       |             |
| 5-6 耐热试验 HEAT RESISTAN TEST<br>在 80±2℃环境中放 96 小时，再置于正常环境中，30 分钟后进行测试。<br>80±2℃ for 96H, test after keeping in normal condition for 30min.<br>5-7 耐湿试验 MOISTURE RESISTANT TEST<br>在 60±2℃ 90～95%环境中放 96 小时，再置于正常环境中，30 分钟后进行测试。<br>At 60±2℃ 90～95% RH for 96H, test after keeping in normal condition for 30min.<br>5-8 耐冷试验 COLD RESISTANT TEST<br>在-40±2℃环境中放 96 小时，再置于正常环境中，30 分钟后进行测试。<br>At -40±2℃for 96H, test after keeping in normal condition for 30min.<br>5-9 温度交变试验 TEMPERATURE CYCLIG TEST<br>如图示之环境中，循环 5 次后，再置于正常环境中， 1 个小时后进行测试。<br>According to following figure, after 5cycles, test after keeping in normal condition for 1H. |              | <br><br>(1) 接触电阻 200 毫欧以下。<br>Contact resistance 200mΩ.<br>(2) 绝缘电阻 100 兆欧以上。<br>insulation resistance 100MΩ min.<br>(3) 无任何迹象显示机械及电器性能之损坏<br>there shall be no sign of mechanical and electrical damage. |       |             |
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