



东莞市铭标电子科技有限公司

MINGBIAO ELECTRONICS CO., LTD

# 承 认 书

APPROVE SHEET

客户名称 Customer: \_\_\_\_\_

品 名 Part name: Toggle switch

型 号 Part Number: QHCM15

| Design/Date | Check/Date | Review/Date | Approval/Date |
|-------------|------------|-------------|---------------|
|             |            |             |               |

## 贵公司承认印 Approval signatures

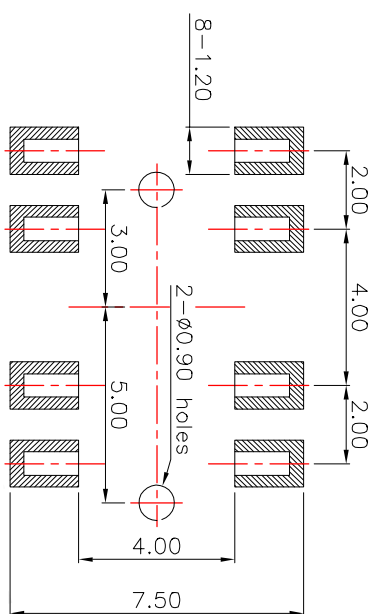
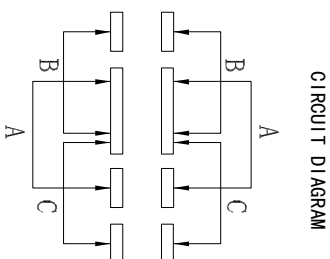
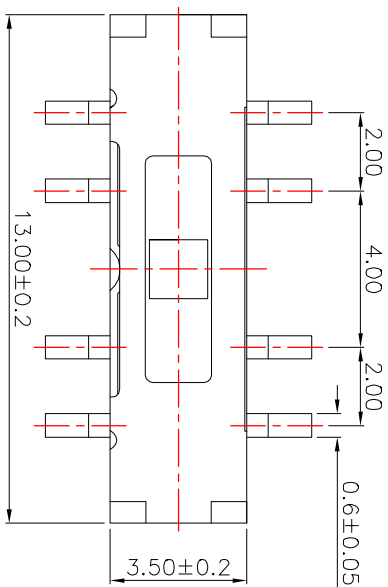
| Approval/Date | Remark |
|---------------|--------|
|               |        |

Send us a copy of reference , thank you! 日期 Date:

**地址:** 广东省东莞市长安镇沙头社区猫山东路 101 号

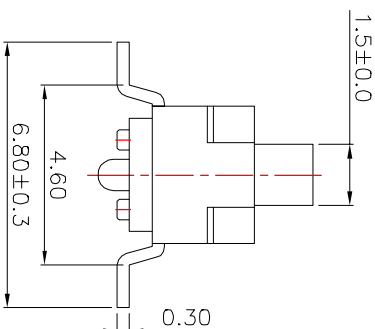
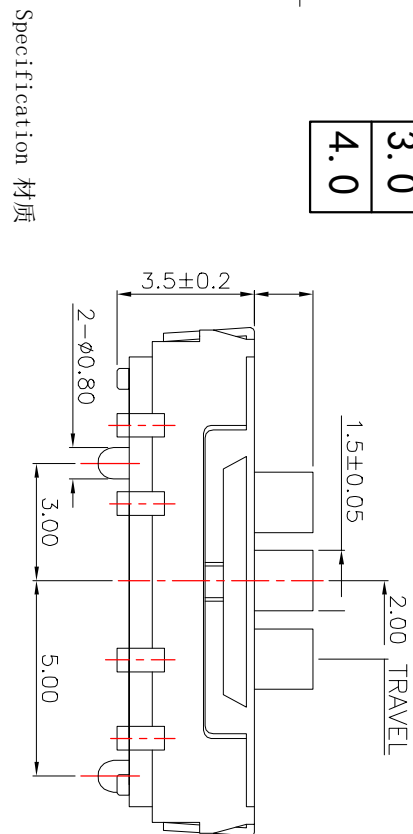
**Add:** Dongguan City, Guangdong Province, Chang'an Town, Sand head community The cat shandong road, No. 101

**Ntel:** 0769-81581583



P.C.B MOUNTING PATTERN DIMENSION  
The following soldering are recommended  
for reflow soldering

|     |
|-----|
| H   |
| 2.0 |
| 3.0 |
| 4.0 |



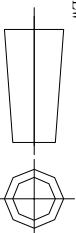
技术参数

| NO | 项目   | 参数             |
|----|------|----------------|
| 1  | 额定电流 | 4V DC 300mA    |
| 2  | 接触电阻 | ≤100mΩ         |
| 3  | 按压力  | 200±70gf       |
| 4  | 行程   | 2.0±0.1mm      |
| 5  | 绝缘电阻 | >50MΩ          |
| 6  | 抗电强度 | 250V 50Hz 1Min |
| 7  | 寿命   | 10000 次        |

Specification 材质

| Part Name | Material | Specification |
|-----------|----------|---------------|
| 名称        | 颜色       | 材质            |
| 盖板        | 银白色      | 不锈钢镀银         |
| 按钮        | 黑色       | PA46/9T       |
| 弹簧        | 本色       | 不锈钢丝          |
| 簧片        | 银白色      | 磷青铜镀银         |
| 底座        | 黑色       | PA46/9T/LCP   |
| 端子        | 银白色      | 磷铜镀银          |

第三视角  
FIRST VIEW



名称/NAME:  
**拨动开关**

型号/MODEL:

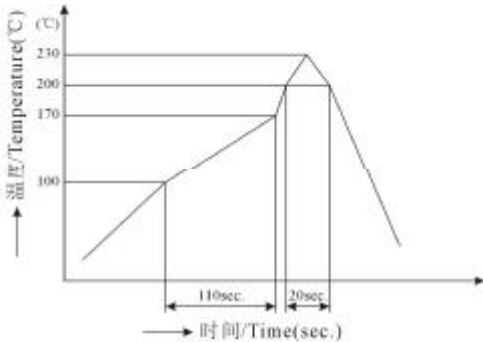
QHCM15

| 标记<br>SIGN     | 次数<br>FREQUENCY | 更改文件号<br>REVISION | 签名<br>APPROVED | 日期<br>DATE | 比例<br>SCALE | 单位<br>UNIT | 重量<br>WEIGHT |
|----------------|-----------------|-------------------|----------------|------------|-------------|------------|--------------|
| 设计<br>DESIGN   |                 | 韦标骥               |                |            | mm          |            |              |
| 审核<br>CHECKED  |                 | 朱明华               |                |            |             |            |              |
| 批准<br>APPROVED |                 |                   |                |            |             |            |              |

一般公差  
GENERAL TOLERANCE

|             |       |
|-------------|-------|
| 0.5~2       | ±0.10 |
| 2~5         | ±0.15 |
| 5~10        | ±0.20 |
| 角度<br>ANGLE | ±0.5° |

|  |  |  |  |
|--|--|--|--|
|  |  | 文件编号   |  |
|  |  | 发布日期   | 2017年2月15日   |
| SPECIFICATION 规格书                      |  | 第2版  | 1 of 2   |
| 产品名称: 拨动开关<br>产品型号: QHCM15             |  |  |  |
| DRAW 制定                                | 韦标骥                                      | APPD. 审批   | 朱明华  |
| 1. RATING(额定值): DC 12V 100mA           |  |  |  |
| 2. ELECTRICAL CHARACTERISTICS(电气性能规格): |  |  |  |
| ITEM 项目                                |  | TEST CONDITIONS 测试条件   | PERFORMANCE 规格   |
| 2.1                                    | CONTACT RESISTANCE<br>接触电阻               | MEASURED AT SMALL CURRENT(100mA OR LESS)<br>在微小电流(100mA)以下测试.  | 100mΩ MAX.<br>100 毫欧以下.  |
| 2.2                                    | INSULATION RESISTANCE<br>绝缘电阻            | APPLY A VOLTAGE OF 100V DC FOR 1 MIN.<br>TO FOLLOWING PORTIONS AFTER WHICH<br>MEASUREMENT SHALL BE MADE.<br>1) BETWEEN BODY AND CONDUCTOR.<br>2) BETWEEN CONDUCTORS 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) 胶座体与排脚之间.   | 50MΩ MIN.<br>50 兆欧以上.  |
| 2.3                                    | DIELECTRIC STRENGTH<br>耐电压               | AC 250V (50-60Hz) FOR 1 MIN TRIP CURRENT: 0.5mA<br>1) BETWEEN TERMINALS.<br>2) BETWEEN INDIVIDUAL TERMINALS AND FRAME.<br>输入 AC 250V(50-60Hz)电压, 1 分钟感度电流为 0.5mA, 按以下接触方法测试:<br>1) 排脚相互之间;<br>2) 排脚与外壳之间.  | WITHOUT DAMAGE TO PARTS ARCING OR BREAKDOWN ETC.<br>没有绝缘破坏等异常.   |
| 3. MECHANICAL CHARACTERISTICS(机械性能规格)  |  |  |  |
| ITEM 项目                                |  | TEST CONDITIONS 测试条件   | PERFORMANCE 规格   |
| 3.1                                    | OPERATING FORCE<br>动作力                   | 侧面推动   | 推动力度: 180gf ± 50gf   |
| 3.2                                    | TERMINAL STRENGTH<br>端子强度                | A STATIC LOAD OF (500gf) SHALL BE APPLIED TO THE TIP OF THE TERMINAL FOR 1 MIN IN ANY DIRECTION.<br>在任意一个方向的先端加上(500gf)力度测试, 时间为 1 分钟.   | ELECTRICAL CHARACTERISTICS SHALL BE SATISFIED WITHOUT DAMAGE OR EXCESSIVE LOOSENESS OF ACTUATOR<br>在端子中没有裂开, 松动等异常, 满足于机械, 电器性能. |
| 3.3                                    | STANDARD ATMOSPHEIC 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~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. |  |

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|---------------------|---------------------------------------|--|--|
|                     |                                       | 文件编号   |  |
|                     |                                       | 发布日期   | 2012年10月10日  |
| SPECIFICATION 规格书   |                                       | 第2版  | 2 of 2   |
| 3.4                 | PRACTICAL TEMPERATURE RANGE<br>使用温度范围 | -10°C~+50°C.<br>在-10°C~+50°C温度内使用.   |  |
| 4. DURABILITY(耐久性): |                                       |  |  |
| ITEM 项目             |                                       | TEST CONDITIONS 测试条件   | PERFORMANCE 规格   |
| 4.1                 | LIFE TEST<br>寿命试验                     | WITHOUTLOAD:<br>AN ACTUATOR SHALL BE SUBJECT TO 7,000 - 10,000 CYCLES AT A SPEED OF 30 CYCLES FOR 1 MIN.<br>无负荷:<br>操作者以每分钟 30 次的频率作 7,000-10,000 次之无负荷测试.   | 1) CONTACT RESISTANCE SHALL BE 500mΩ MAX.<br>2) MECHANICAL AND ELECTRICAL CHARACTERISTICS SHALL BE SATISFIED.<br>1) 接触电阻不能超过于 500mΩ<br>2) 其它满足于机械, 电气性能. |
| 4.2                 | HEAT TEST<br>耐热试验                     | THE SWITCH SHALL BE STORED AT A TEMPERATURE OF 85±2°C FOR 96 HOURS. AND THEN IT SHALL BE SUBJECTED TO THE CONTROLLED RECOVERY CONDITIONS FOR 1 HOUR AFTER WHICH MEASUREMENT SHALL BE MADE.<br>放置在温度 85±2°C 中 96 小时后,再放置正常室温中 1 小时后测定.  | THERE SHALL BE NO DAMAGE ON APPEARANCE.<br>MECHANICAL AND ELECTRICAL CHARACTERISTICS SHALL BE SATISFIED.<br>外观无异常, 满足于机械, 电气性能.                          |
| 4.3                 | COLD TEST<br>耐冷试验                     | THE SWITCH SHALL BE STORED AT A TEMPERATURE OF -25±3°C FOR 96 HOURS. AND THEN IT SHALL BE SUBJECTED TO THE CONTROLLED RECOVERY CONDITIONS FOR 1 HOUR AFTER WHICH MEASUREMENT SHALL BE MADE.<br>放置在温度-25±3°C 中 96 小时后,再放置正常室温中 1 小时后测定.   | THERE SHALL BE NO DEFORMATION OR CRACKS IN MOLDED PART.<br>外观无异常, 满足于机械, 电气性能.   |
| 4.4                 | HUMIDITY TEST<br>潮湿试验                 | THE SWITCH SHALL BE STORED AT A TEMPERATURE OF 40±2°C AND A HUMIDITY OF 80% TO 85% FOR 96 HOURS. THEN THE SWITCH SHALL BE MAINTAINED AT STANDARD ATMOSPHERIC CONDITIONS FOR 1 HOUR FOR OTHER PROCEDURES BE MADE.<br>放置在 40±2°C 相对湿度为 80~85% 环境中 96 小时后, 再将样品放在正常环境中 1 小时后进行测定. | 外观无异常, 满足于机械, 电气性能.  |
| 4.5                 | SOLDERING CONDITIONS<br>焊锡条件          | HAND SOLDERING 手焊:<br>1) DEVICE 工具: SOLDER IRON 电烙铁.<br>A. 350°C Max. 3sec Max.<br>B. 270°C Max. 5sec Max.<br>2) REFLOW SOLDERING 回流焊: 250 °C<br>   | THERE SHALL BE NO DEFORMATION OR CRACKS IN MOLDED PART.<br>外观无异常, 满足于机械, 电气性能.   |