



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:

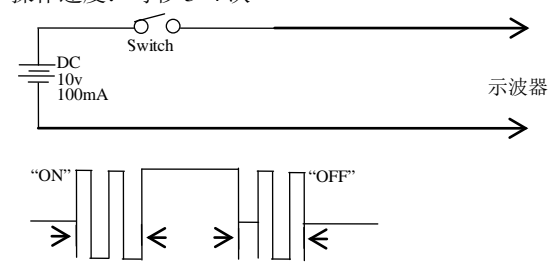
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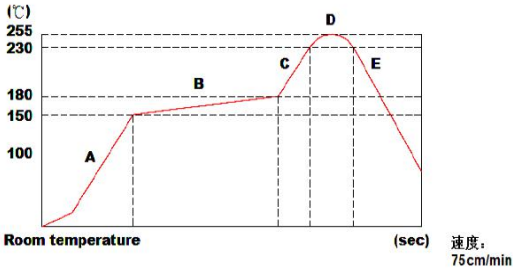
贵公司承认印 Approval signatures

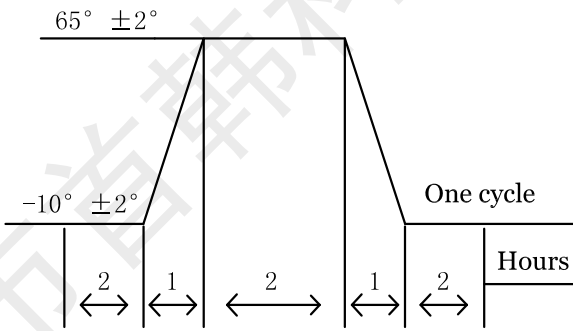
| 料 号/Part No. | 签 章/Signatures |
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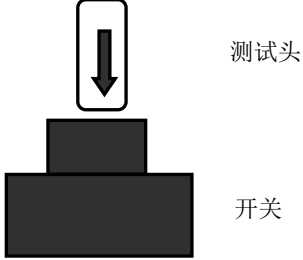
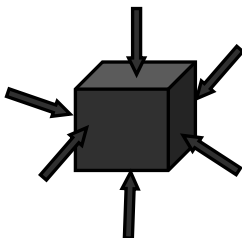
日期 Date:

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

| 1.General specification 基本事项 | | | |
|---|---|------------------------------------|--|
| 1.1 Switch action 开关种类: Tact Switch 轻触开关 | | | |
| 1.2 Switch rating 最大额定值: DC 12V, 50mA | | | |
| 1.3 Operation temperature range 使用温度试验范围: -20°C~+70°C | | | |
| 1.4 Preservative temperature range 保存温度范围: -30°C~+80°C | | | |
| 1.5 Appearance and dimensions: See outside drawing page 外形尺寸: 见外形尺寸图 | | | |
| 1.6 Standard condition: Unless otherwise specified, the test and measurements shall be carried out as follows: 试验、测定状态 Ambient temperature 温度: 5~35°C Relative humidity 相对湿度: 25~85% Air pressure 气压: 86~106KPa (860~1060mbar) However, if doubt arises on the decision based on the measured Values under the above-mentioned conditions, the following conditions be employed 但是在对判定产生疑义时, 按下述状态实施: Ambient temperature 温度: 20±2°C Relative humidity 相对湿度: 65±5% Air pressure 气压: 86~106KPa (860~1060mbar) | | | |
| 2.Performance 性能 | | | |
| 2.1 Electrical characteristics 电气性能 | | | |
| Item 项目 | Test condition 测试条件 | Performance 规格 | |
| 2.1.1 Contact Resistance 接触电阻 | Push force: (Operation force)x2 测定时的负荷: 操作方向动作力基准值的 2 倍 Measurement tool: Contact resistance meter 测定器: 微电流接触电阻计 (1KHz,20V,5~50mA) | 100mΩ Max 100 毫欧以下 | |
| 2.1.2 Insulation Resistance 绝缘电阻 | DC 250V(Between terminals) 不相接的两端子间、端子与塑胶间施加DC 250V 的电压 | 100MΩ Min 100 兆欧以上 | |
| 2.1.3 Withstand Voltage 耐电压 | AC 250V(Between terminals) frame for 1 minute 不相接的两端子间、端子与塑胶间施加 AC250V 电压, 持续 1 分钟测量 | No insulation destruction 无绝缘破坏 | |
| 2.1.4 Bouncing 触点抖动 | Operation speed:3~4times/s 操作速度: 每秒 3~4 次  | ON: 5ms max 以下 OFF: 5ms max 以下 | |
| | | | |

| 2.2 Mechanical Characteristics | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|--------------------------------|---|--|---|------------------|--------------------------|------------|---|---------|--------|------------------|---|----------|-----|------------------------|---|----------|--------|--------------|---|---------------|---------------------|--------------------|---|-----------|--------|--------------|---|
| Item 项目 | | Test condition 测试条件 | Performance 规格 | | | | | | | | | | | | | | | | | | | | | | | | |
| 2.2.1 | Operations Force 动作力 | Push by recommended operating condition 测量时，轻触开关动作方向均匀施加静负荷。 | 250±50gf | | | | | | | | | | | | | | | | | | | | | | | | |
| 2.2.2 | Travel to closure 运作行程 | Push by recommended operating condition F=(Operations Force)X2 在开关的顶端！顶端的面中央沿开关动作方向施加2倍操作力测量行程，测量仪器的顶端应平。 | 0.20±0.1mm | | | | | | | | | | | | | | | | | | | | | | | | |
| 2.2.3 | Kond strength 手柄强度 | 30N(3Kgf) for 1 minuter 在开关驱动器顶端中央，在垂直方向加30N（3kg）力，作用60秒。 | NO damage(Electrical and mechanical) 无异常（电气.机械性能） | | | | | | | | | | | | | | | | | | | | | | | | |
| 2.2.4 | Vibration test 耐振性 | 1)Amplitude 全振幅: 1.5mm 2)Sweep rate: 10-55-10Hz for 1minuter 扫描速度: 10-55-10Hz 1分钟 3)Sweep method:Logarithmic frequency sweep rate 扫描方式:对数频率扫描速度 4)Vibration direction:X. Y. Z (3 directions) 振动方向: X. Y. Z(3个方向) 5)Time: Each direction 2 hours(Total 6 hours) 时间: 每个方向2个小时(共6个小时) | No. 2.1 and 2.2.1 to 2.2.2 shall be satisfied 满足2.1项和2.2.1至2.2.2项 | | | | | | | | | | | | | | | | | | | | | | | | |
| 2.2.5 | Soldering heat test 耐焊接热 | Soldering area:t/2 of P.W.B thickness (P.C.B: T=1.6mm) 焊接面积:印刷基板的1/2厚度处 Soldering temperature: 260±5° C 焊接温度: 260±5° c Soldering time:3±0.5sec 焊接时间: 3±0.5秒 | NO damage(Electrical and mechanical) 无异常（电气.机械性能） | | | | | | | | | | | | | | | | | | | | | | | | |
| 2.2.6 | Solderbility 可焊性 | After sprated flux 涂上助焊剂后 Temperature:245±5° C 温度: 245±5° C Soldering time: 2±0.5sec 焊接时间: 2±0.5秒 | 90% or more of surface area of the portion immersed in solder shall be covered by new solder 90%或更多的浸焊面积能被焊锡覆盖 | | | | | | | | | | | | | | | | | | | | | | | | |
| 2.2.7 | Reflow soldering Heartest 回流焊耐热实验 |  <table border="1" data-bbox="464 2002 1066 2184"> <thead> <tr> <th>Parts</th> <th>Temperature (°C)</th> <th>Time at temperature(sec)</th> <th>Treatments</th> </tr> </thead> <tbody> <tr> <td>A</td> <td>NO -150</td> <td>60-90S</td> <td>Pre-heating zone</td> </tr> <tr> <td>B</td> <td>150 -180</td> <td>90S</td> <td>Heat preservation zone</td> </tr> <tr> <td>C</td> <td>180 -220</td> <td>30-40S</td> <td>Heating zone</td> </tr> <tr> <td>D</td> <td>220 -255 -220</td> <td>40S (其中255°C为7-10S)</td> <td>Recirculation zone</td> </tr> <tr> <td>E</td> <td>220 to NO</td> <td>60±20S</td> <td>Cooling zone</td> </tr> </tbody> </table> | Parts | Temperature (°C) | Time at temperature(sec) | Treatments | A | NO -150 | 60-90S | Pre-heating zone | B | 150 -180 | 90S | Heat preservation zone | C | 180 -220 | 30-40S | Heating zone | D | 220 -255 -220 | 40S (其中255°C为7-10S) | Recirculation zone | E | 220 to NO | 60±20S | Cooling zone | Without deformation of case or excessive looseness of electrical properties 本体无变形，能满足于机械，电气性能。 |
| Parts | Temperature (°C) | Time at temperature(sec) | Treatments | | | | | | | | | | | | | | | | | | | | | | | | |
| A | NO -150 | 60-90S | Pre-heating zone | | | | | | | | | | | | | | | | | | | | | | | | |
| B | 150 -180 | 90S | Heat preservation zone | | | | | | | | | | | | | | | | | | | | | | | | |
| C | 180 -220 | 30-40S | Heating zone | | | | | | | | | | | | | | | | | | | | | | | | |
| D | 220 -255 -220 | 40S (其中255°C为7-10S) | Recirculation zone | | | | | | | | | | | | | | | | | | | | | | | | |
| E | 220 to NO | 60±20S | Cooling zone | | | | | | | | | | | | | | | | | | | | | | | | |

| 2.3 Characteristics机械性能 | | | |
|--------------------------------|---|--|--|
| Item 项目 | Test condition 测试条件 | Performance 测试条件 | |
| 2.3.1 Cold test 耐寒性 | 1) Temperature: $-30 \pm 2^{\circ} \text{C}$ 温度: $-30 \pm 2^{\circ} \text{C}$ 2) Duration of test: 96h 持续时间 96 小时 3) Take off a drop water 去掉水珠 4) Standard conditions after test 1h 试验后放置条件: 1小时 | No. 2.1 and 2.2.1 to 2.2.2 shall be satisfied 满足2.1项和2.2.1至2.2.2项 | |
| 2.3.2 Heat test 耐热性 | 1) Temperature: $80 \pm 2^{\circ} \text{C}$ 温度: $80 \pm 2^{\circ} \text{C}$ 2) Duration of test: 96h 持续时间 96 小时 3) Take off a drop water 去掉水珠 | No. 2.1 and 2.2.1 to 2.2.2 shall be satisfied 满足2.1项和2.2.1至2.2.2项 | |
| 2.3.3 Temperature 温度并变实验 | According to following, after 5cycles, test After keeping in normal condition for 30min 如图环境所示, 循环5次后, 放置正常环境中, 1小时候进行测量  | No. 2.1 and 2.2.1 to 2.2.2 shall be satisfied 满足2.1项和2.2.1至2.2.2项 | |
| 2.3.1 Humidity test 耐湿性 | 1) Temperature: $-60 \pm 2^{\circ} \text{C}$ 温度: $-60 \pm 2^{\circ} \text{C}$ 2) Relative humidity: 90~95% 相对湿度: 90~95% 3) Duration of test: 96h 持续时间;96小时 4) Take off a drop water 去掉水珠 5) Standard conditions after test 1h 试验后放置条件: 1小时 | No. 2.1 and 2.2.1 to 2.2.2 shall be satisfied 满足2.1项和2.2.1至2.2.2项 | |

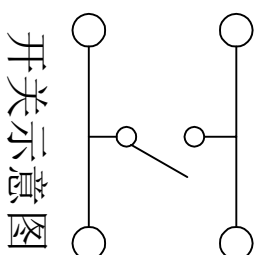
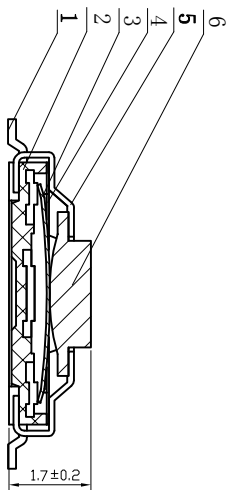
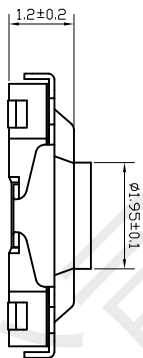
| Item 项目 | Test condition 测试条件 | Performance 规格 |
|--|---|--|
| 2.3.5 Endurance (switching) action 耐久特性 (开关寿命) | 1) Operation speed: 60 times/min 动作速度: 60 次/分钟 3) Push force: Maximum vale of operation force 按力: 动作力规格值的上限 3) Operation number: 100, 000 times 动作次数: 100, 000 次 安装示意图  | Contact resistance: 200mΩ max 接触电阻: 200mΩ 以下 Bouncing: 10 ms max 触点抖动: 10 毫秒以下 Insulation resistance: 100MΩ min 绝缘电阻: DC 250V, 大于 100MΩ Withstand voltage: No.destruction 耐电压: 无绝缘破坏 Variations rate of operation force shall be within ±30% to the value be fore testing 动作力的变化范围在初始值的±30%以内 2.2.2 shall be satisfied 满足 2.2.2 项 |
| 2.3.6 Withstand H ₂ S 耐H ₂ S | 1) Density: 3±1ppm 浓度: 3±1ppm 2) Temperature: 40±2°C 温度: 40±2°C 3) Relative humidity: 90~95% 相对温度: 90~95% 4) Duration of test: 12h 持续时间: 12 小时 5) Standard conditions after test: 1h 试验后的放置条件: 1 小时 | No.2.1 and 2.2.1 to 2.2.2 shall be satisfied 满足 2.1 项和 2.2.1 至 2.2.2 项。 |
| 2.3.7 Salt mist 盐雾试验 | At 5% Nacl liquor for 8 hours depend on 35°C, after washing, keep in normal condition. 5%的 Nacl 溶液, PH 值: 6.5~7.2, 在 35°C的条件下喷雾 8 小时, 用清水洗净后并在室温下晾干。 | No remarkable corrosion shall be recognized in metal part. 在金属件上没有腐蚀斑点。 |
| 2.3.8 Shock 耐冲击性 | Peak acceleration: 500m/S ² Duration of test: 11ms 冲击加速度: 500m/S ² 持续时间: 11ms Test time-6direction, each 3 times total 18 times 测试次数-6 个方向, 各 3 次共计 18 次。  | No.2.1 and 2.2.1 to 2.2.2 shall be satisfied 满足 2.1 项和 2.2.1 至 2.2.2 项。 |
| | | |

3.Precaution 注意事项

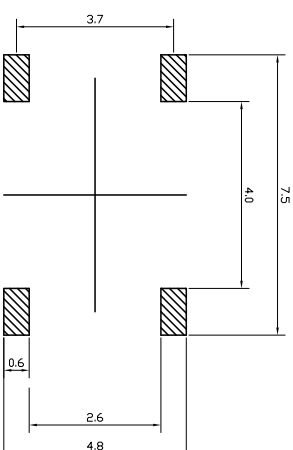
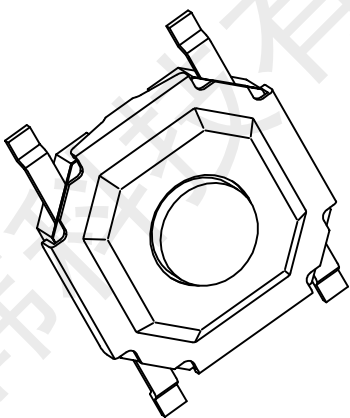
3.1 Soldering condition 浸焊条件

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

- 1) After switches were soldered, please be careful not to clean switches with solvent.
开关浸焊后, 注意不要用溶剂清洗。
 - 2) In the case of using soldering iron, soldering conditions shall be 280°C max and 3 sec max.
在使用烙铁的情况下, 焊锡温度应在 280°C以下、3 秒以内。
 - 3) Right after switches were soldered; please be careful not to load on the knobs of switches.
浸焊后, 注意不要在手柄顶部施加负荷。
- 3.2 Design instructions (设计中应注意事项)
- 1) Follow recommended P.C.B piercing plan in the outside drawing page.
印刷基板的安装孔尺寸参见产品图。
- 3.3 Note (注意点)
- 1) Please be cautious not to give excessive static load or shock to switches.
注意不要施加超过负荷的压力或晃动开关。
 - 2) Please be careful not to pile up P.C.B after switches were soldered.
开关焊接以后, 印刷基板注意不要叠放。
 - 3) Preservation under high temperature and high humidity or corrosive gas should be avoided especially. When you need to preserve for a long Period, do not open the carton.
保管时尤其应注意避开高湿高温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。



开关示意图



PCB circuit prohibited area

Specification:

- ① 温度范围 Temperature:-20 +70°C
- ② 额定负荷 Current Rating:DC12V 50mA
- ③ 接触电阻 Contact Resistance:100mΩ Max
- ④ 绝缘电阻 Insulation Resistance:100MΩ Min
- ⑤ 耐电压 Withstand Voltage:AC250V(50Hz)/min
- ⑥ 动作力 Actuating Force 250gf±50gf
- ⑦ 电气寿命 Mechanical Life:100,000 Cycles

| | | | | |
|----|------|------|----|-----|
| 6 | 按键 | 黄铜 | 1 | 黄色 |
| 5 | 盖板 | SUS | 1 | --- |
| 4 | 贴膜 | 聚酰亚胺 | 1 | 黄色 |
| 3 | 弹片 | SUS | 1 | 镀银 |
| 2 | 基座 | PPA | 1 | 黑色 |
| 1 | 端子 | 磷铜 | 1 | 镀银 |
| 编号 | 部件名称 | 材料名称 | 数量 | 备注 |

| | |
|-----|-----|
| 单位 | mm |
| 制图 | 李春风 |
| 设计 | |
| 审核 | 张栋 |
| 校核 | |
| 标准化 | 罗孝金 |
| 批准 | |

| | |
|----|-------------|
| 名称 | 轻触开关 |
| 型号 | 5.2X5.2X1.7 |
| 图号 | |
| 角法 | |



深圳市首韩科技有限公司

| | |
|---------|-------------------|
| 一般公差 | GENERAL TOLERANCE |
| 角度 | ANGLES |
| XX±0.2 | X±5 |
| XXX±0.1 | X±2 |
| 材质 | MATERIAL |
| 重量 | WT. |
| 表面积 | SA. |

| | | | |
|----------|--------------------|------|---------|
| 修改 | 修改内容 | 修改日期 | 修改人 |
| REVISION | ECN NO./DEFINITION | DATE | APPROVE |
| 1 | | | |
| 2 | | | |
| 3 | | | |
| 4 | | | |
| 5 | | | |
| 6 | | | |
| 7 | | | |
| 8 | | | |

| | |
|----|-------|
| 比例 | 1 : 1 |
| 版本 | A0 |
| 张数 | 1 |
| 张数 | 1 |
| 张数 | 1 |

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[GS6.90F300QP](#) [1-1977223-0](#) [1-1977120-4](#) [ADTSA62NV](#) [ADTSA62RV](#) [ADTSA63KV](#) [ADTSA644NV](#) [ADTSM24NVTR](#) [ADTSMW66NV](#)
[ADTSMW67RV](#) [ATM533VTR](#) [1571300-3](#) [B3F-3123](#) [B3F-6055A](#) [B3F-B32-01-KIT](#) [1977177-8](#) [1977266-1](#) [2-1977223-4](#) [2-1977223-7](#)
[ADTS644KV](#) [ADTSA61RV](#) [ADTSA62KV](#) [ADTSA63NV](#) [ADTSA63RV](#) [ADTSA65NV](#) [ADTSM21NSVTR](#) [ADTSM25RVTR](#)
[ADTSM31RVTR](#) [ADTSM32NVTR](#) [ADTSM61YVTR](#) [ADTSM63SVTR](#) [ADTSM644KVTR](#) [ADTSMW64RV](#) [ADTSMW69NV](#)
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