



深圳市首韩科技有限公司

SHENZHEN SHOUHAN TECHNOLOGY CO., LTD

Tel: 0755-27597601 Fax: 0755-27597491

承 认 书

SPECIFICATION FOR APPROVAL

客户 Customer:

首韩型号:

检测开关LY

厂家型号:

TS-103

贵公司承认印 Approval signatures

| 料号/Part No. | 签章/Signatures |
|-------------|---------------|
| | |

日期 Date:

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

规格书 SPECIFICATION

1. 一般特性 General Characteristics

- 1.1 额定值(Rating Value): DC 12V 50mA
- 1.2 工作温度(Work Temperature Range): $-30^{\circ}\text{C} \sim 85^{\circ}\text{C}$
- 1.3 存贮温度(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 Item | 测试方法 Test Method | 测试设备 Equipment | 特性要求 Requirements |
|-----|--------------------------------------|--|---------------------------------------|---|
| 3.1 | 接触电阻 Contact Resistance | 在低电流 ($\leq 100\text{mA}$) 条件下测试。 Measured at low current (100mA or less). | 低电阻测试仪 Low Resistance Meter | 150m Ω |
| 3.2 | 绝缘阻抗 Insulation Resistance | 测试相邻引脚之间, 引脚与外壳之间的绝缘阻抗。 Measurement shall be made between adjacent terminals, between terminal and shell. | 绝缘测试机 Insulation Resistance Tester | 100M Ω |
| 3.3 | 耐压测试 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。 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 Puncture Tester | 没有绝缘破坏。 电弧等异常。 No arcing, break down and damaging insulation. |

4. 机械特性 Mechanical Characteristics

| No. | 项目 Item | 测试方法 Test Method | 测试设备 Equipment | 特性要求 Requirements |
|-----|------------------------|---|--------------------|----------------------|
| 4.1 | 操作力 Operation Force | <p>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。</p> <p>Operate the keystroke of the switch and then increase press strength gradually, Measured maximum operation force while the travel of the switch is full.</p> | 测力计 Force Gauge | 30±20gf |

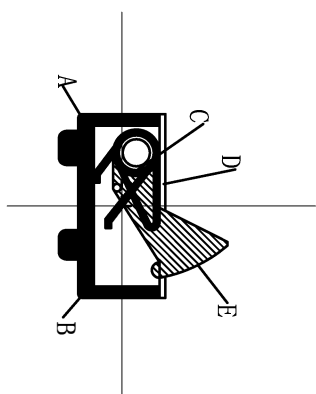
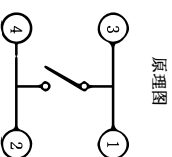
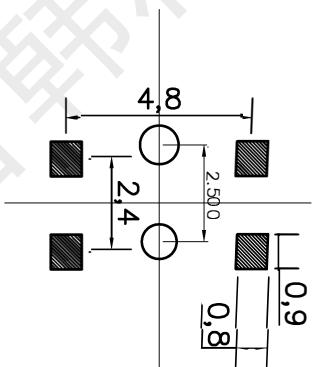
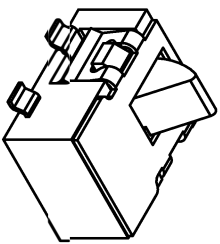
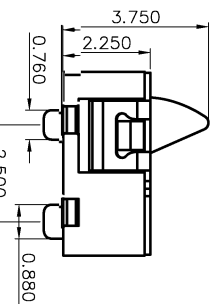
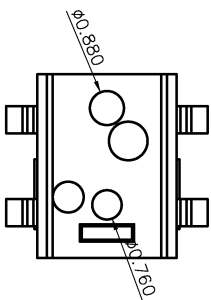
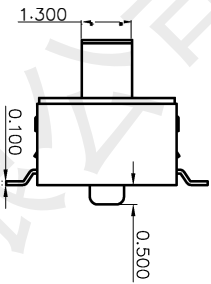
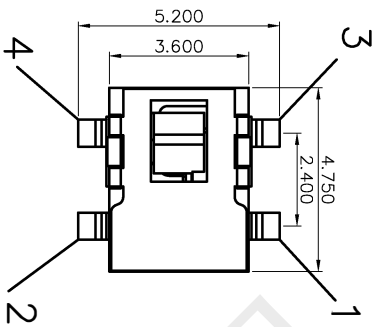
5. 可靠性测试 Reliability trial

| No. | 项目 Item | 测试方法 Test Method | 测试设备 Equipment | 特性要求 Requirements |
|-----|--------------------------------------|---|----------------------|--|
| 5.1 | 可焊性试验 Solder ability Test | <p>端子顶部被浸入焊锡炉中，温度为 260±5℃，时间 5±1 秒。</p> <p>The top of the terminals shall be dipped in the solder bath at 260±5℃ for 5±1 seconds.</p> | 控温锡炉 Solder Stove | <p>引脚至少 95%上锡。</p> <p>Ninety-five percent of terminals shall be dipped.</p> |
| 5.2 | 寿命试验 Operation Life | <p>开关在寿命试验设备上以约 90 次 / 分的速度连续被操作，具体次数见规格图示。</p> <p>Switch shall be operated continuously at about 90 cycles /min without load.</p> | 寿命试验机 Life Tester | <p>寿命:100000 次</p> <p>实验后:</p> <p>绝缘电阻: 10MΩ Min</p> <p>操作力: 变化在±50%内开关外观及结构无损坏。</p> <p>Life test:100000 cycles</p> <p>After test, Insulation resistance:10MΩ Min</p> <p>Operating force: Change should be within ±50% of specified value.</p> <p>No abnormalities shall be recognized in appearance and construction.</p> |
| 5.3 | 耐焊接热 Resistance to Soldering heat | <p>端子焊接部分浸入焊炉，焊炉温度 260± 5℃，焊接时间 5±1 秒。(焊接时不可于端子施加外力)。</p> <p>Terminals shall be dipped in the solder bath at 260±5℃ for 5±1 seconds without additional force for terminals.</p> | 控温锡炉 Solder Stove | <p>本体无变形，能满足于机械、电气性能。</p> <p>Appearance should be not damaged, electrical and mechanical characteristics shall be satisfied.</p> |

5. 可靠性测试 Reliability trial

| No. | 项 目 Item | 测试方法 Test Method | 测试设备 Equipment | 特 性 要 求 Requirements |
|-----|--------------------------------------|---|--|---|
| 5.4 | 耐高温测试 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。 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 High & Low Temperature Tester | 外观，机械及电气性能均符合要求。 Appearance, electrical and mechanical characteristics shall be satisfied. |
| 5.5 | 耐低温测试 Resistance to Cold Test | 放置在温度 $-20\pm 2^{\circ}\text{C}$ 环境中 96 小时后，再置于正常条件下 1 小时后测定。 The switch shall be stored at a temperature of $-20\pm 2^{\circ}\text{C}$ for 96 hours, Measurements shall be made after it be subjected to the standard conditions for 1 hour. | 高低温试验机 High & Low Temperature Tester | 外观，机械及电气性能均符合要求。 Appearance, electrical and mechanical characteristics shall be satisfied. |
| 5.6 | 耐湿性测试 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)。 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 Temperature & Humidity Tester Chamber | 外观，机械及电气性能均符合要求。 Appearance, electrical and mechanical characteristics shall be satisfied. |
| 5.7 | 盐雾实验 Salt Mist Test | 试件在下述实验后测量： 1. 温度： $35\pm 5^{\circ}\text{C}$ 2. 盐溶液浓度： $5\pm 1\%$ (质量百分比)， 3. 试验时间：24 小时， 4. 试验后，将盐沉积物用水冲掉。 The switch shall be checked after following test: 1. Temperature: $35\pm 5^{\circ}\text{C}$ 2. Salt solution: $5\pm 1\%$ (Solids by mass) 3. Duration: 24 hours, 4. After immersing, salt deposit shall be removed by running water. | 盐雾试验机 Salt Spray Tester | 在金属件上没有严重腐蚀斑点。 No remarkable corrosion shall be recognized in metal parts. |

| 标记 | 修改内容 | 日期 | 版本 | 设计者 |
|----|------|----|----|-----|
| ① | | | | |
| ② | | | | |
| ③ | | | | |



| 项 目 | 标 准 | 未注公差 GENERAL TOLERANCE | 角度公差 ANGLE TOLERANCE | 单位: mm (UNITS) | 产品系列: (Prod. utb series) | 材料 Material | 镀涂 Plating coating | 颜色 colour | 备注 Remarks |
|--------------------------------|--------------------|---------------------------|-------------------------|-----------------------|-----------------------------|----------------|-----------------------|--------------|---------------|
| 额定电流 Rated Current: | 50mA MAX | X. | X° | 按钮 | 进口增强尼龙 | / | / | 黑色 | |
| 额定电压 Rated voltage: | DC 12V | .X | .X° | 盖板 | SUS301-H T=0.15 | 整体清洗 | | 银白色 | |
| 接触电阻 Contact resistance: | ≤150mΩ | .XX | .XX° | 接触弹簧 | 进口磷青铜 | 镀银 | | 银白色 | |
| 绝缘电阻 Insulation Resistance: | ≥100MΩ | .XXX | .XXX | 嵌件 | 进口磷青铜 | 镀银 | | 银白色 | |
| 耐压强度 Compressive strength: | AC250V 50HZ/1 min | | | A 底座/基座 | 进口 LCP | / | | 黑色 | |
| 操作力度 Operating force: | 30±20gf | | | NO. 零件名称 Part Name | QTY | 材料 Material | | | |
| 机械寿命 Mechanical life: | 100,000 cycles Min | | | | | | | | |
| 操作行程 Operation Stroke: | 0.3+0.2mm | | | | | | | | |
| 环境温度 Temperature Range: | -30°C ~ +85°C | | | | | | | | |

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|--------------------------------|--------------------|---------------------------|-------------------------|-----------------------|-----------------------------|----------------|-----------------------|--------------|---------------|
| 额定电流 Rated Current: | 50mA MAX | X. | X° | 按钮 | 进口增强尼龙 | / | / | 黑色 | |
| 额定电压 Rated voltage: | DC 12V | .X | .X° | 盖板 | SUS301-H T=0.15 | 整体清洗 | | 银白色 | |
| 接触电阻 Contact resistance: | ≤150mΩ | .XX | .XX° | 接触弹簧 | 进口磷青铜 | 镀银 | | 银白色 | |
| 绝缘电阻 Insulation Resistance: | ≥100MΩ | .XXX | .XXX | 嵌件 | 进口磷青铜 | 镀银 | | 银白色 | |
| 耐压强度 Compressive strength: | AC250V 50HZ/1 min | | | A 底座/基座 | 进口 LCP | / | | 黑色 | |
| 操作力度 Operating force: | 30±20gf | | | NO. 零件名称 Part Name | QTY | 材料 Material | | | |
| 机械寿命 Mechanical life: | 100,000 cycles Min | | | | | | | | |
| 操作行程 Operation Stroke: | 0.3+0.2mm | | | | | | | | |
| 环境温度 Temperature Range: | -30°C ~ +85°C | | | | | | | | |

| 项 目 | 标 准 | 未注公差 GENERAL TOLERANCE | 角度公差 ANGLE TOLERANCE | 单位: mm (UNITS) | 产品系列: (Prod. utb series) | 材料 Material | 镀涂 Plating coating | 颜色 colour | 备注 Remarks |
|--------------------------------|--------------------|---------------------------|-------------------------|-----------------------|-----------------------------|----------------|-----------------------|--------------|---------------|
| 额定电流 Rated Current: | 50mA MAX | X. | X° | 按钮 | 进口增强尼龙 | / | / | 黑色 | |
| 额定电压 Rated voltage: | DC 12V | .X | .X° | 盖板 | SUS301-H T=0.15 | 整体清洗 | | 银白色 | |
| 接触电阻 Contact resistance: | ≤150mΩ | .XX | .XX° | 接触弹簧 | 进口磷青铜 | 镀银 | | 银白色 | |
| 绝缘电阻 Insulation Resistance: | ≥100MΩ | .XXX | .XXX | 嵌件 | 进口磷青铜 | 镀银 | | 银白色 | |
| 耐压强度 Compressive strength: | AC250V 50HZ/1 min | | | A 底座/基座 | 进口 LCP | / | | 黑色 | |
| 操作力度 Operating force: | 30±20gf | | | NO. 零件名称 Part Name | QTY | 材料 Material | | | |
| 机械寿命 Mechanical life: | 100,000 cycles Min | | | | | | | | |
| 操作行程 Operation Stroke: | 0.3+0.2mm | | | | | | | | |
| 环境温度 Temperature Range: | -30°C ~ +85°C | | | | | | | | |

| | | | | | |
|-----------------------------|----------------|------------|-----|-----------|-----|
| 材料: XXXXXXXXX | 成品料号: 检测开关LY | 比例 (SCALE) | 1:1 | 设计 (DR) | 李春风 |
| 热处理: 00-00° | 零件名: XXXXXXXXX | 图纸 (SIZE) | A4 | 校对 (CHKD) | 张栋 |
| 数量: 400PCS | 零件号: 00-00 | 版本 (REV) | A00 | 核准 (APRD) | 罗孝金 |
| 因子: XXXXX-XXXXX-XXXXX-XXXXX | 视图 (VIEW) | | | | |
| | 页码 00-00 | | | | |

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|-----------------------------|---------------|
| 深圳市首韩科技有限公司 | |
| 图号: XXXXX-XXXXX-XXXXX-XXXXX | 图名: 检测开关LY |
| 数量: 400PCS | 零件号: 00-00 |
| 因子: XXXXX-XXXXX-XXXXX-XXXXX | 视图: 视图 (VIEW) |
| | 页码: 00-00 |
| | 比例: 1:1 |
| | 设计: 李春风 |
| | 校对: 张栋 |
| | 核准: 罗孝金 |