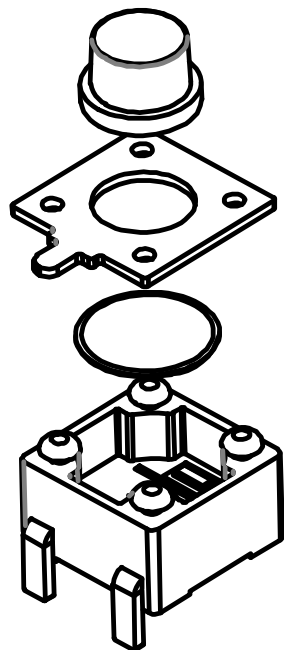
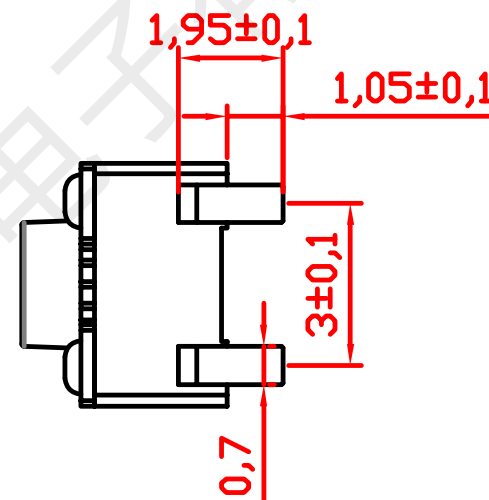
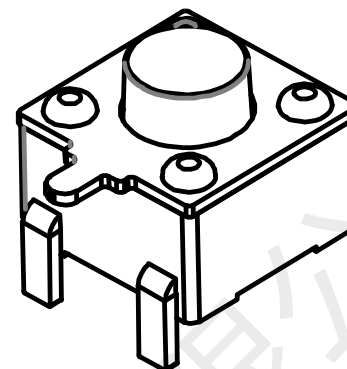
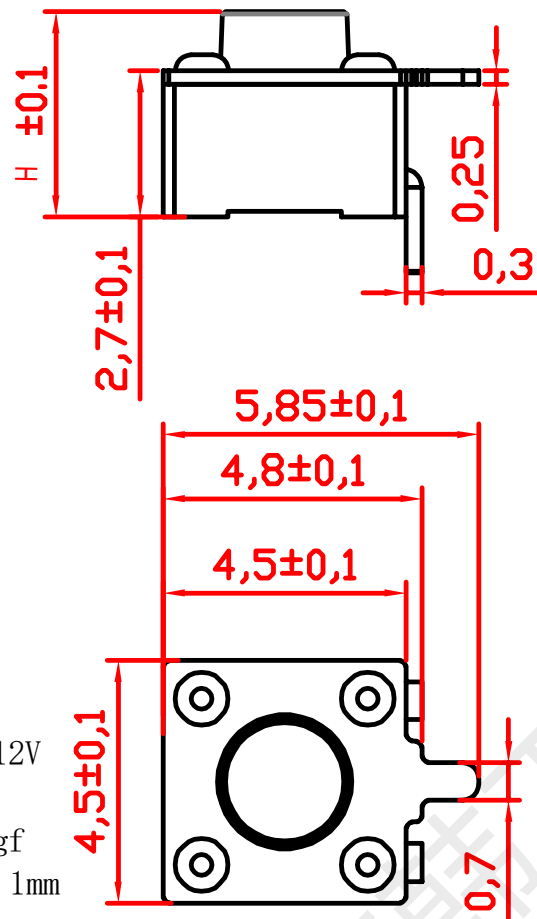


TH-C023

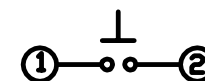


主要技术规格:

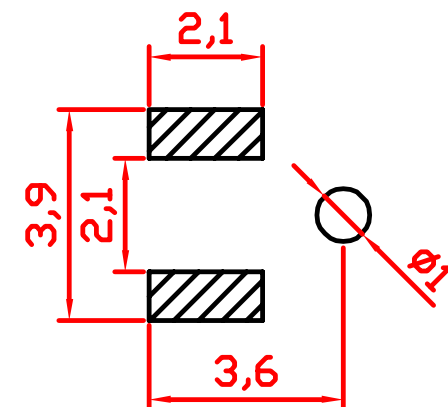
1. 额定值: 50mA DC12V
2. 接触电阻:  $\leq 50\text{m}\Omega$
3. 操作力:  $250 \pm 50\text{gf}$
4. 行程:  $0.20 \pm 0.1\text{mm}$
5. 绝缘电阻:  $\geq 100\text{M}\Omega$
6. 抗电强度: 250V 50HZ 1Min.
7. 寿命: 100,000 Cycles



| H     |       |
|-------|-------|
| 3.8   | 4.3   |
| 4.5   | 5.0   |
| 5.5   | 6.0   |
| 6.5   | 7.0   |
| ..... | ..... |
| 11.5  | 12.0  |



电路图  
SCHEMATIC



PCB开孔  
P.C.B. HOLE DETAIL

| 第一视角 |       |      |    |             |    |    |       |            |    | 名称: 轻触开关                |              |
|------|-------|------|----|-------------|----|----|-------|------------|----|-------------------------|--------------|
|      |       |      |    |             |    |    |       |            |    | 型号: HX TS45HB3JTP 250GF |              |
| 5    | 引脚、触点 | 黄铜   | 1  | 镀银          | 标记 | 处数 | 更改文件号 | 签名         | 日期 | 比例                      | 一般公差         |
| 4    | 基座    | PPA  | 1  | 耐温280℃ (黑色) |    |    |       |            |    | 单位                      | mm           |
| 3    | 簧片    | 不锈钢  | 1  | 覆银          |    |    |       |            |    |                         | >0.5~2 ±0.10 |
| 2    | 盖板    | 黄铜   | 1  | 镀锡          | 设计 |    | 李春风   | 2020.05.13 |    |                         | >2~5 ±0.25   |
| 1    | 按钮    | PPA  | 1  | 耐温280℃ (黑色) | 审核 |    | 钟华华   | 2020.05.13 |    |                         | >5~10 ±0.30  |
| 序号   | 零件名称  | 材料规格 | 数量 | 备注          | 批准 |    | 罗孝金   | 2020.05.13 |    |                         | 角度 ±0.5°     |



深圳市韩下电子有限公司



深圳市韩下电子有限公司

Shenzhen Hanxia Electronic Co., Ltd

Tel: 0755-33819206 Fax: 0755-27597491

## 承 认 书

### SPECIFICATION FOR APPROVAL

客 户 Customer:

产品名称 Project:

轻触开关

规格型号 Part No:

HX TS45HB3JTP 250GF

#### 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    | 钟华华 |                                                                                      |
| 批准/Approved | 罗孝金 |                                                                                      |



## 产 品 规 格 书

### PRODUCT SPECIFICATION

|                               |                                    |                                                                                                                                                                      |                                                                               |
|-------------------------------|------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------|
| SIRLES                        |                                    | 系列:FLIP SWITCHES(轻触开关)                                                                                                                                               |                                                                               |
| MODEL                         |                                    | 型号: HX TS4538B3JTP 250GF                                                                                                                                             |                                                                               |
| 1.RATING                      |                                    | 额定值:50mA 12V DC                                                                                                                                                      |                                                                               |
| 2.CONSTRUTION DIMENSION 结构尺寸  |                                    | Apply to the appended drawing:符合附加图纸                                                                                                                                 |                                                                               |
| 3.APEARANCE 外观                |                                    | Have no remarkable damage,crack and rust etc:无明显损伤,裂纹,锈迹等.                                                                                                           |                                                                               |
| 4.CONTACTLOOP 接触回路            |                                    | Monople loop:单通单极回路                                                                                                                                                  |                                                                               |
| ITEM 专案                       |                                    | TEST CONDITION 测试条件                                                                                                                                                  | SPECIFICATION 规格                                                              |
| 5.CAPABILITY OF ELECTRIC 电气性能 |                                    |                                                                                                                                                                      |                                                                               |
| 5A                            | INSULATION RESISTANCE<br>绝缘电阻      | Measurements shall be made following Application of DC500V potential across terminals and across terminals and fuame for 1minute,在端子之间和端子与壳之间加 DC250V 条件下,持续 1 分钟测量. | 100M $\Omega$ min<br>100 M $\Omega$ 以上.                                       |
| 5B                            | WITHSTAND VILTAGE<br>耐电压           | AC250V、50HZ、1 min (imin(interrupting current $\leq$ 500uA). AC250V、50HZ、1 分钟(漏电流 500uA)                                                                              | There shall be no briakdown 无击穿现象出现。                                          |
| 5C                            | CONTACT CIRCUIT<br>接触电路            | Addition 1.5-2 time force on the top of the keystrok and press the switch,DC50V100mA 在按键顶端上等于作用力 1.5-2 倍的力按动开关,DC50V,10Ma.                                           | 100m $\Omega$ Max<br>(100m $\Omega$ 以下).                                      |
| 5D                            | SWITCH CONNECTION FLASH<br>开关接触点抖动 | Addition DC5V on the two side of switch,at a speed of 3-5time a sec.to press the switch.在开关的两端加 DC5V 的电压,以 3-5 次/秒的速度按动开关.                                           | The flash time between open not more than 10ms.<br>开关在接通和断开时的接点抖动时间不大于 10 ms. |
| 6.MECHANICAL EFFICIENCY 机械性能  |                                    |                                                                                                                                                                      |                                                                               |
| 6A                            | CONTACT STRENGTH<br>按键强度           | The contact shall be capable of a rorce of 5N for 5 seconds in any directions.沿开关动作方向可承受静能压力 5N, 保持 5 秒钟.                                                            | Switch electric andmechanical efficiency does not break 无损开关电气或者机械性能          |
| 6B                            | CONTACT JOURNEY                    |                                                                                                                                                                      | 按键行程<br>0.2 $\pm$ 0.1mm                                                       |
| 6C                            | DRIVE FORCE<br>驱动力                 | Being measure at across spring piece and across keystoke forergometer.<br>用测力计在按键与弹片之 间测量.                                                                           | 按键的开关驱动力<br>250 $\pm$ 50gf                                                    |



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|                                              |                                                                                                                                                                                                                                       |                                                                                                                                                                                         |                                                                                                                                              |
|----------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------|
| 6D                                           | CONNECTION<br>STRENGTH<br>接线端强度                                                                                                                                                                                                       | A force of 1N being applying in any directions of the switch connection partt..在接线端的作用方向施加 1N 的力.                                                                                       | Switch mechanical efficiency does not break.无损开关机械性能.                                                                                        |
| 6E                                           | MECHANICAL LIFE<br>机械寿命                                                                                                                                                                                                               | Operatin at a rate of 30-50 cycles a minute. 以 30-50 次/分的驱动速度操作.                                                                                                                        | Life:100000cycles<br>寿命:100000次                                                                                                              |
| 7.ENVIRONME NT----RESISTANT EFFICIENCY 耐环境性能 |                                                                                                                                                                                                                                       |                                                                                                                                                                                         |                                                                                                                                              |
| 7A                                           | CHANGE OF<br>TEMPERATURE 温度变化                                                                                                                                                                                                         | The first temperature shall be 70 °C ,3h and changed to-25°C, 0.5h, 5cycles of above test. 先 70°C, 3h, 然后-25°C, 0.5h, 如此重复 5 次.                                                         | 1. The appearance should not break.外观应无损伤.<br>2. Contact resistance $\leq 100\text{ M}\Omega$ 接触电阻 $\leq 100\text{M}\Omega$                  |
| 7B                                           | HUMIDITY RESISTANT<br>耐湿热                                                                                                                                                                                                             | 40 $\pm$ 2°C in temperature and 90-95%RH, Ruring thetest time without load; After testing the temperature should be 24h. 经 40 $\pm$ 2°C, 相对湿度 90-95%, 试验期间, 开关不动作, 不带电负荷, 试验后恢复到常温 24h. | 3. Insulation resistance $\geq 100\text{ M}\Omega$ . 绝缘电阻 $\geq 100\text{ M}\Omega$                                                          |
| 8.IOINTING EFFICIENCY 焊接性能                   |                                                                                                                                                                                                                                       |                                                                                                                                                                                         |                                                                                                                                              |
| 8A                                           | SOLDERABILITY<br>可焊性                                                                                                                                                                                                                  | Temperature260 $\pm$ 5 °C ;Duration;3 $\pm$ 0.5S:温度在 260 $\pm$ 5 °C, 持续 3 $\pm$ 0.5S.                                                                                                   | Solderability part should above 90% 可焊部分被焊料覆盖面应在 90% 以上.                                                                                     |
| 8B                                           | SOLDER—RESISTANT<br>耐焊剂性                                                                                                                                                                                                              | Warm-up temperature:100°C,40S, 焊锡温度 260 $\pm$ 5 °C, 浸焊时间 5 $\pm$ 0.5S.                                                                                                                  | Froth height of assist solder should under board and switch electric and mechanical efficien- cy does not break.助焊剂发泡不应超过印制板,无损伤开关电气或机械动作性能. |
| 8C                                           | JOINTING—RESISTANT<br>耐焊接热                                                                                                                                                                                                            | Jointing temperature: 260 $\pm$ 5 °C ,Duration of immersion: 5 $\pm$ 1S. 焊锡温度 260 $\pm$ 5 °C, 浸焊时间 5 $\pm$ 1S                                                                           | efficiency does not break 无损伤开关电气或机械动作性能.                                                                                                    |
| 8D                                           | NORMAL JOLNTING TIMES<br>正常焊接次数                                                                                                                                                                                                       |                                                                                                                                                                                         | $\leq 2$ times 小于 2 次                                                                                                                        |
| 9.NOTES                                      |                                                                                                                                                                                                                                       |                                                                                                                                                                                         |                                                                                                                                              |
| 9A                                           | The whole boxes of switch should keep in the temperature -30--80 °C and less than 80%RH withort acidic,alkalescence,caustic gas in the environment of the storage.<br>整箱包装的开关,应在温度为-30--80°C,相对湿度不大于 80%,周围的空气中没有酸性、碱性或其他腐蚀性气体的库房内保管。 |                                                                                                                                                                                         |                                                                                                                                              |
| 9B                                           | Operating Temperature Range:-25 to 70 °C<br>操作温度的范围: -25 to 70 °C                                                                                                                                                                     |                                                                                                                                                                                         |                                                                                                                                              |
| 9C                                           | Switch should install in a correct method.<br>开关应按正确的安装方法进行正确安装使用。                                                                                                                                                                    |                                                                                                                                                                                         |                                                                                                                                              |