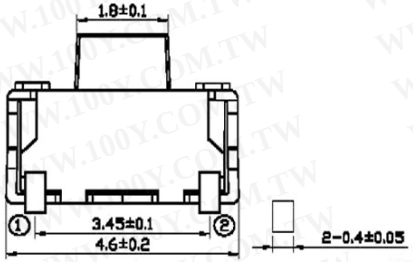
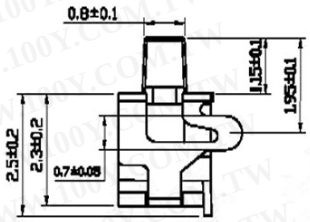
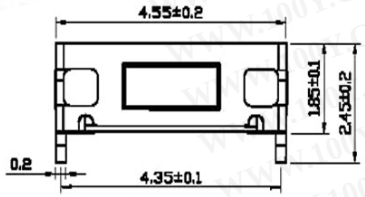
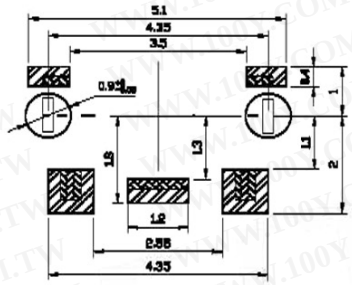




LENGTH	TOLERANCE
L≤5	
5≤L ≤10	
10<L ≤15	
15<L	





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NO.	名称PART NAME	材质MATERIAL	数量QTY	备注REMARK
10				
9				
8				
7				
6				
5	引 脚	磷铜镀银		
4	弹 片	不锈钢复银	2	银 白 色
3	盖 子	磷铜镀银	1	银 白 色
2	底 座	LCP	1	白色/黑色
1	按 钮	LCP	1	黑色/白色

更版标记 REVISION NOTE	承认 APPRO.	日期 DATE

品名 ARTICLE	轻触开关	未注公差TOLERANCE	
型号 MODEL	TS-1111C	PLASTIC TOL	±0.20
料号 PART NO.	6C8102021系列	METAL TOL	±0.10
单位 UNIT	mm		
版本 EDITION	2.0		
制图DRAW	审核CHECK	批准APPRO.	PROJECTION视图方法

PRODUCT SPECIFICATIONS

产品名称Product Name	轻触开关
型　　号Model No	TS-1111C
料　　号Part No	6C8102021系列

1.一般特性(General Characteristics):

1.1 适用范围(Application):	该规格书指轻触开关的一般使用范围(This specification is applied to the Tact switch for general applications.)
1.2 使用温度范围(Operating Temperature Range):	-10℃～+50℃
1.3 保存温度范围(Storage Temperature Rang)	-25℃～+70℃
1.4 实验条件(Test Conditions):	若没有特殊说明,则试验在大气条件如下 (Unless otherwise specified,.the atmospheric conditions for making measurements and tests are as follows;) 环境温度(Ambient Temperature):5-35℃ 压力(pressure):86Kpa-106Kpa. 相对湿度(Relative Humidity):45%-85%

2.外观,结构及尺寸(Appearance,Structure & Dimension):

2.1外观(Appearance):	产品外观良好,无锈蚀,裂纹和镀层缺陷.(The switch shall have good finishing,and no rust,crack or plating defects.)
2.2 结构及尺寸(Structure & Dimensions)	参见产品图纸.(Refer to individual product drawing.)
2.3 标识(Markings):	参见产品图纸.(Refer to individual product drawing.)

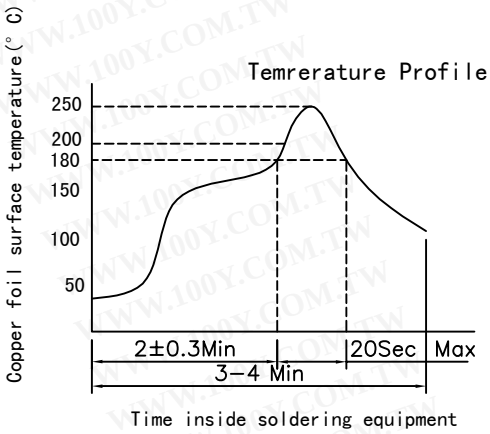
3.额定值(Rating):　DC 12V　50mA

4. 电气性能(Electrical Characteristcs):

	项目(Item)	标准(Criteria)	实验方法(Test Method)
4.1	接触电阻 (Contact Resistance)	≤100mΩ	用两倍的动作力作静负载施加于按钮的中心，并用1千赫小电流接触电阻仪测量 (Applying a static load twice the actuating force to the center of the stem,measurements shall be made with a 1 KHz small-currentcontact resistance meter
4.2	绝缘电阻(Insulation Resistance)	≥50MΩ min	在相互绝缘的所有端子之间及个接线端子与外露的非载流金属零件之间加载100V直流电,持续时间60±5秒. (100V DC voltage is applied between each pair of terminals and between the terminal and metal frame for 60±5Sec.)
4.3	抗电强度 (Dielectric Voltage)	无击穿现象发生. (No dielectric breakdown shall occur.)	在相互绝缘的所有接线端子之间加载250V(50-60Hz,泄漏电流10mA)交流电,各接线端子与外壳或非载流金属零件之间加载250V(50-60Hz,泄漏电流0.5mA)交流电,持续时间60±5秒. 250V(50-60Hz,10mA) alternate current load is applied between open terminals connected with wires; or 250V (50-60Hz,0.5mA)alternate current load is applied between frame & terminal or between metal parts,for 60±5Sec.

5.机械性能(Mechanical Characteristics)

	项目(Item)	标准(Criteria)	实验方法(Test method)
5.1	驱动力 (Drive Force)	160g±40gf	用测力计在按键与弹片之间测量 Being measure at across spring piece and across keystoke forergometer
5.2	行程 (Travels)	0.2±0.1mm	从自由位置到动作位置的距离.(The distance from release position to operating position)
5.3	操作部（柄）强度 (stem strength)	外观无异常，满足于机械，电气性能。 (and satisfied with the appearance of mechanical and electrical performance.)	在按钮任意一方向的先端加上500g力度测试，时间为30秒。 （Apex in the press handle arbitrary direction plus 500g strength tes ,time is 30 seconds.）
5.4	可焊性 (Solder Ability)	超过75%的焊锡面积被焊料所覆盖 (More than 75% of immersed part shall be covered with solder)	试件在下述参数条件下进行试验. (Switch shall be checked after fallowing test): (1)焊料(Solder):H63A (JIS Z 3282) (2)焊剂:焊剂(JIS K 5902), 质量百分比为25%松香 75%甲醇的 无色透明溶液.Flux:Rosin Flux(JIS K 5902) having a nominal composition of 25% solids by mass of water white rosin in methyl alcohol(JIS K 1501) solution (3) 焊接温度:230±5℃ 焊接时间:3±0.5秒 (Soldering Temperature :230±5℃ Immersing Time : 3±0.5Sec)

5.5	耐焊接热 (Solder Heat Resietance)	无外观及功能损坏,电气性能应符合第4部份的要求 (-No abnormalities shall be observed in appearance and operation -The electrical performance requirements specified in item 4 shall be satisfied)	一、回流焊方法 Re-fiow soldering method: 回流焊接条件:(Reflow soldering conditions 预热:被焊接部位进入焊接设备之后的2±0.3分钟,铜片表面的温度可达到180° C. (Preheat:Temperature on the copper foil surface should reach 180° C,2±0.3 minutes after the P.W.B entered into the soldering equipment.) 焊接温度:被焊接部位进入焊接区的20秒内,铜片表面的温度最高达250° C.(Soldering heat: Temperature on the copper foil surface should reach the peak temperature of 250° C within 20 seconds after the P.W.B enter into soldering heat zone.  二、自动焊接方法 Solder bath method 焊接温度:250±2° C 时间:5±1.0秒 Temperature :250±2° C Sinking time: 5±1S PCB 厚度:1.6mm Thickness of PCB :1.6mm Immersion depth: Up to the surface of the board 三、手工焊接方法 Solder iron method 焊接温度:270±10° C 时间:3±1.0 秒 Bit temperature :270±10° C Application time: 3±1.0S
5.6	机械寿命 (Operating life without Load)	实验后(After test): -接触电阻(Contact resistance):50mΩ -绝缘电阻(Insulation resistance): 100MΩ Min -抗电强度应符合第4.3格的要求. (Electrical performance requirements specified in item 4.3 shall be satisfied) -操作力变化在±30%以内.(Operating force shall be within ±30% of specified value.) -开关外观及结构无损坏. (The switch shall be free from abnormalities in appearance & construction.)	在无负荷的条件下,在寿命试验设备连续转换80,000次.(60次/分) 80,000 cycles of operation shall be performed continuously at a rate of 60 cycles per minute without load.

6. 耐候性能(Weather Proof Characteriscs):

	项目(Item)	标准(Criteria)	实验方法(Test Method)
6.1	低温 Cold Proof	实验后(After test): -接触电阻(Contact resistance): 200mΩ Max. -绝缘电阻(Insulation resistance): 100MΩ Min -抗电强度应符合第4.3格的要求. (Electrical performance requirements specified in item 4.3 shall be satisfied) -操作力变化在±10%以内 (Operating force shall be within ±10% of specified value) -开关外观及结构应无损坏. (The switch shall be free from abnormalities in appearance & construction.)	试件在-20±3℃的温控箱内保持96个小时,然后在正常的温度和湿度下恢复1小时,并在此后1小时内对试品进行测量,水滴应消失. (After testing at -20±3℃ for 96 hours , the switch shall be allowed to stand under normal temperature and humidity conditions for 1 hour, and measurement shall be made within 1 hour after that .Water drops shall be eliminated.)
6.2	高温 Hot Proof		试件在85±2℃的温控箱内保持96个小时,然后在正常的温度和湿度下恢复30分钟,并在此后30分钟内对试品进行测量. (After testing at 85±2℃ for 96 hours , the switch shall be allowed to stand under normal temperature and humidity conditions for 30minutes, and measurement shall be made within 1 hour after that .)
6.3	恒定湿热 Moisture Resistance		试件在40±2℃,90-96%RH的温控箱内保持48个小时,然后在正常的温度和湿度下恢复1小时,并在此后1小时内对试品进行测量,水滴应消失. (After testing at 40±2℃,90-96%RH for 48 hours ,the switch shall be allowed to stand under normal temperature and humidity conditions for 1 hour, and measurement shall be made within 1 hour after that. Water drops shall be eliminated.)

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