

# 规格书

## PRODUCT APPROVAL SHEET

客户名称

CUSTOMER NAME

客户编号

CUSTOMER NO

产品系列

PRODUCT SERIES

产品名称

PRODUCT TYPE

图型号

DRAWING NO

轻触开关

3X3X0.8

贵公司承认栏

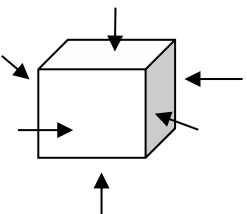
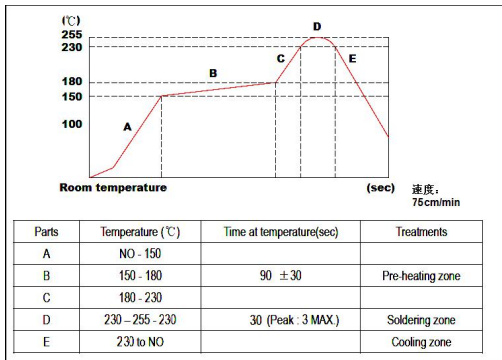
APPROVAL SIGNATURE

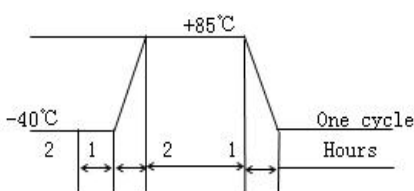
请于 \_\_\_\_\_年\_\_\_\_\_月\_\_\_\_\_日前承认返 日期DATE: \_\_\_\_\_

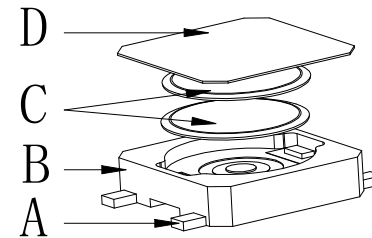
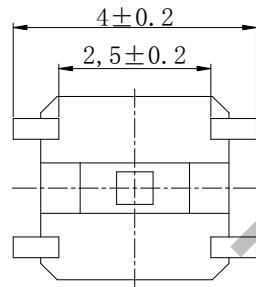
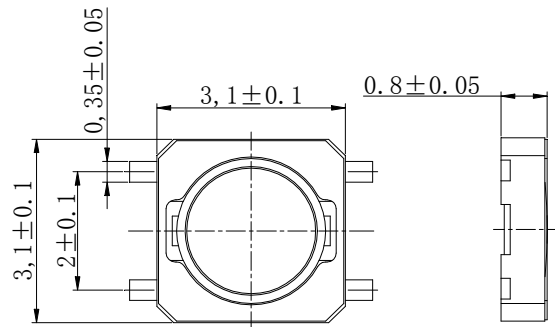
PLEASE RETURN TO US AFTER CONFIRMED! THANK YOU!

DESIGNED BY制表	CHECKED BY校对	APPROVED BY审核
DDATE日期	DDATE日期	DDATE日期

TACT SWITCH SPECIFICATION 轻触开关产品规格书		File No. 文件编号	
		Version 版本	A/0
<b>一、GENERAL SPECIFICATION 基本说明</b>			
1. RATING 额定值: 50mA 12V DC 2. TYPE OF ACTUATION动作类型: Tactile feedback 轻触返回 3. STANDARD TEST TEMPERATURE SHALL BE 5°C TO 35°C AND HUMIDITY SHALL BE 45% TO 85%. 温度5~35°C, 湿度45~85%标准状态下测试。 4. OPERATING TEMPERATURE RANGE IS -20°C TO 70°C. IT IS USUALLY APPLIED TO ELECTRONIC AND ELECTRICAL APPLIANCE PRODUCTS. 温度-20°C~70°C环境温度内使用。一般适用电子、电器方面产品使用。 5. STORAGE TEMPERATURE RANGE: -40~85°C。 保存温度范围: -40~85°C。			
<b>二、TEST ITEM 测试项目</b>			
ITEM 项目	TEST CONDITION 测试条件		PERFORMANCE 性能
<b>1. ELECTRICAL PERFORMANCE 电器性能</b>			
1.1	CONTACT RESISTANCE 接触电阻	Being tested at 1kHz small current and voltage (50mA, 20mV) by contact resistance meter. 在1kHz小电流电压(50mA, 20mV)下测量。	100mΩ max. 100毫欧以下。
1.2	INSULATION RESISTANCE 绝缘电阻	DC 250V shall be applied for test between terminals and between terminals and frame for one minute. 在端子之间和端子与壳之间加DC250V条件下, 持续1分钟测量。	100MΩ min. 100兆欧以上。
1.3	WITHSTAND VOLTAGE 耐电压	AC 250V and induction current 1mA shall be applied for test between terminals and between terminals and frame for one minute. 在端子之间和端子与壳之间加AC250V(50Hz或60Hz)感应电流1mA条件下, 持续1分钟测量。	There shall be no breakdown. 无击穿现象。
<b>2. MECHANICAL PERFORMANCE 机械性能</b>			
2.1	OPERATING FORCE 动作力	 <p>Force</p> <p>Stroke</p> <p>Push by recommended operating conditions</p> <p>Push force</p> <p>Return force</p>	160±30gf 260±50gf
2.2	TRIP 行程	The force exerted 2 times the constant force on the switch and the moving distance at the switch stop. 给开关施加动作力2倍不变的力, 开关停止时的移动距离。	0.25±0.05mm
2.3	HAND VALUE 手感值	Percentage of switching pressures by the difference of switching pressures minus resilience. 开关按力减去回弹力的差值所占开关按力的百分比	Hand value: 30-70% 手感值: 30-70%

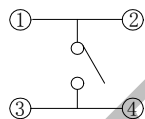
2.4	TERMINAL STRENGTH 端子強度	A static force of 300g being applied in one direction on the tip of the terminal for 1 mintue. 一個300克之靜負荷施加端子頂部的一個方向持續1分鐘。	There shall be of mechanical and electrical damage. 無任何跡象顯示機械及電器性能之損壞。																								
2.5	KNOB STRENGTH 手柄強度	Place the switch vertically to the operation direction, test the maximum pulling force that knob can withstand3KG. 開關垂直於操作方向放置，測量推柄所能承受的最大拉力3KG	There shall be of mechanical and electrical damage. 無任何跡象顯示機械及電器性能之損壞。																								
2.6	IMPACT SHOCK 沖擊	980m/s <sup>2</sup> , 11ms, 3Cycles 6 Directions (Total 18 Cycles) 6個方向，每個方向3次。(18次) 	(1) Contact resistance 200mΩ 接觸電阻200毫歐以下。 (2) Operating force 30% initial value. 動作力變化範圍初始值30% (3) ITEM 項目——1.2 (4) ITEM項目——1.3 (5) ITEM項目——2.2																								
<b>3. DURABILITY 耐久性</b>																											
3.1	SOLDERING TEST 可焊性試驗	The tip of the terminal shall be dipped 0.5mm in the solder bath within temperature of 230±5°C for 3s. 端子頂部被浸入錫池0.5mm深，溫度230±5°C，時間3秒。	Over 95% of the immersed surface was covered by tin. 侵入的部分95%以上表面將被錫覆																								
3.2	SOLDERING RESISTANT TEST 耐焊性試驗	Soldering temperature 260±5°C, soldering time 3±0.5s, immersion depth up to the surface of the board, thickness of PCB 1.6mm. 焊爐錫的溫度控制在260±5°C，時間為3±0.5秒，與(基板)厚度1.6mm。 Manual soldering temperature 350±5°C, soldering time 3±0.5s, however excessive pressure shall not be applied to the terminal. 手焊接時溫度控制在350±5°C，時間為3±0.5秒，但不能在端子上施加異常壓力。	Without deformation of case or excessive looseness of electrical properties 本體無變形，能滿足與機械、電器性能																								
3.3	REFLOW SOLDERING HEAR TEST 回流焊接熱試驗	 <table border="1" data-bbox="502 1803 981 1948"> <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></td> <td></td> </tr> <tr> <td>B</td> <td>150 - 180</td> <td>90 ± 30</td> <td>Pre-heating zone</td> </tr> <tr> <td>C</td> <td>180 - 230</td> <td></td> <td></td> </tr> <tr> <td>D</td> <td>230 - 255 - 230</td> <td>30 (Peak : 3 MAX)</td> <td>Soldering zone</td> </tr> <tr> <td>E</td> <td>230 to NO</td> <td></td> <td>Cooling zone</td> </tr> </tbody> </table>	Parts	Temperature (°C)	Time at temperature(sec)	Treatments	A	NO - 150			B	150 - 180	90 ± 30	Pre-heating zone	C	180 - 230			D	230 - 255 - 230	30 (Peak : 3 MAX)	Soldering zone	E	230 to NO		Cooling zone	Without deformation of case or excessive looseness of electrical properties 本體無變形，能滿足與機械、電器性能
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3.4	LIFE TEST 寿命测试	30,000cycles of operation at a rate of 100-120 cycles per minute with unloading 无负载条件，每分钟100-120次的速度操作30,000次。	(1) Contact resistance 200mΩ 接触电阻200毫欧以下。 (2) Operating force 30% initial value. 动作力变化范围初始值30%。 (3) ITEM 项目——1.2 (4) ITEM 项目——1.3 (5) ITEM 项目——2.2
3.5	SAIL SPRA 盐雾	1) Temperature: 35±2℃ 2) Cycle: 8 Hours testing(3Times) and 1 Hours stop. Based on total 24 hours. 3) Salt solution concentration: 5±1% by weight. 1) 测试温度: 35±2℃ 2) 循环次数: 8小时喷雾1小时停, 连续3次. 喷雾24小时。 3) 盐雾浓度: 5±1%	(1) Contact resistance 200mΩ. 接触电阻200毫欧以下。 (2) insulation resistance 100MΩ min. 绝缘电阻100兆欧以上。 (3) there shall be no sign of mechanical and electrical damage. 无任何迹象显示机械及电器性能之损坏
3.6	HEAT RESISTANT TEST 耐热试验	80±2℃ for 96H, test after keeping in normal condition for 30min. 在80±2℃环境中放96小时，再置于正常环境中，30分钟后进行测试。	
3.7	MOISTURE RESISTANT TEST 耐湿试验	At 60±2℃ 90~95% RH for 96H, test after keeping in normal condition for 30min. 在60±2℃ 90~95%环境中放96小时，再置于正常环境中，30分钟后进行测试。	(1) Contact resistance 200mΩ. 接触电阻200毫欧以下。
3.8	3.8 COLD RESISTANT TEST 耐冷试验	At -40±2℃ for 96H, test after keeping in normal condition for 30min. 在-40±2℃环境中放96小时，再置于正常环境中，30分钟后进行测试。	(2) insulation resistance 100MΩ min. 绝缘电阻100兆欧以上。 (3) there shall be no sign of mechanical and electrical damage. 无任何迹象显示机械及电器性能之损坏
3.9	TEMPERATURE CYCLIG TEST 温度交变试验	According to following figure, after 5cycles, test after keeping in normal condition for 1H. 如图示之环境中，循环5次后，再置于正常环境中，1个小时后进行测试。 	

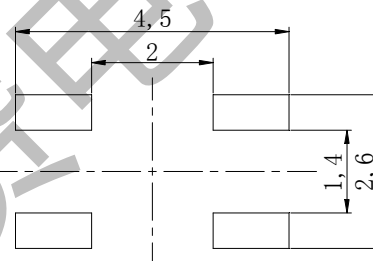


### 技术参数

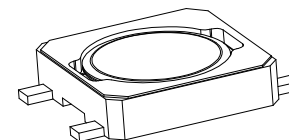
1. 额定电流: 50mA 12V DC
2. 接触电阻: 100毫欧
3. 行程: 0.2±0.05mm
4. 绝缘电阻: 100兆欧
5. 抗电强度: 100v 50Hz 1Min



电器原理图



P C B 参考图



按力	160±30gf	260±50gf
寿命	7万次	7万次

					第一视角		比例		规格型号/ Part No			
					一般公差		1:1					
					>0.5-2		±0.1					
					>2-5		±0.2					
					>5以上		±0.3					
					角度		±1°					
D	防尘膜	聚酰亚胺	1		標記	處數	更改文件號	簽字	日期	单位	产品名称/ Product Name	3X3X0.8H
C	簧片	不锈钢覆银	2		设计/Designed			审核/Checked		批准/Approved		
B	基座	LCP	1	清洗						东莞市百赞电子有限公司		
A	卡件	磷铜0.15	1	镀银								
F	序号	名称	材料	数量	备注							