

三佐部品【中国】股份有限公司

SAMZO PARTS [CHINA] CO.,LTD

承認書

APPROVE SHEET

客户名称 CUSTOMER : _____	
贵司制品名 CUSTOMER PN: _____	本公司制品名 PRODUCT PN: TACT SWITCH
贵司规格 APPROVAL DAT: _____	本公司规格 PRODUCT CODE: A44E652210
客户料号 CUSTOMER NO: _____	本公司规格书编号 PRODUCT DRAWING NO: 201606081036

	批准 APPROVAL	审核 CHECK	设计 DESIGN
☐ 新品承认 NEW APPROVE	批准 李先缘	审核 周颖鑫	设计 颜明玉
☐ 规格书变更承认 CHANGE CODE APPROVE AGAIN			
☐ 材料变更承认 CHANGE MATERIAL APPROVE AGAIN			
	DATE: _____	DATE: _____	DATE: _____

贵公司承认栏

APPROVAL SIGNATURE

印章

请于____年____月____日前承认返回我司 日期 DATE: _____

PLEASE RETURN TO US AFTER CONFIRMED! THANK YOU!

三佐部品【中国】股份有限公司
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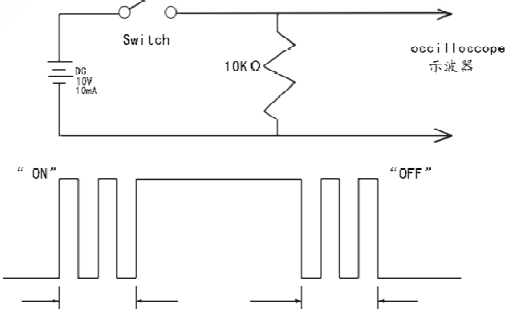
世界零部件制造商

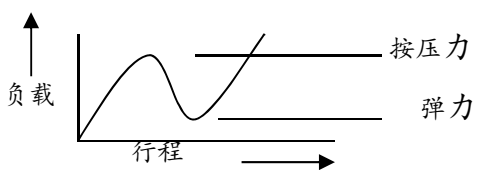
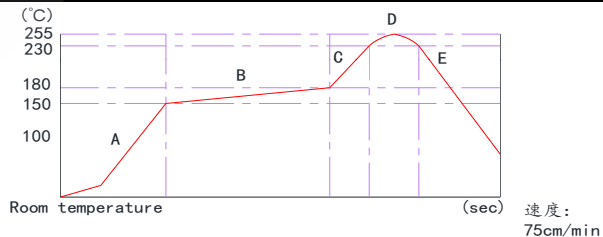
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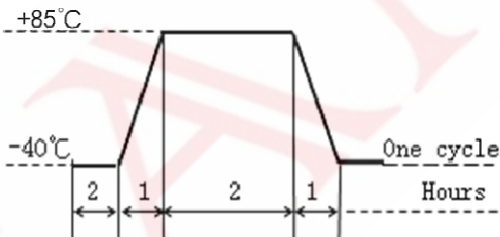


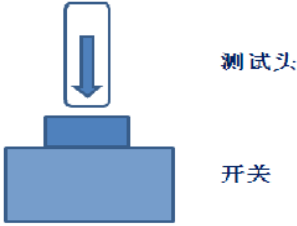
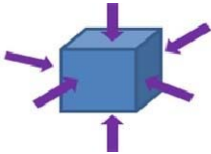
ISO9001 ISO14001
认证企业

全国免费投诉热线 : 4000059805

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 , 50 mA			
1.3 Operation temperature range 使用温度试验范 : - 20~ + 70℃			
1.4 Preservative temperature range 保存温度范 : - 40~ + 85℃			
1.5 Appearance and dimensions : See outside drawing page 外形及尺寸: 见外形尺寸			
1.6 Standard condition :Unless otherwise specified, the test and measurements shall be carried out as follows: 标准条件: 试验和测量应进行如下: Ambient temperature 温 度: 5 ~ 35℃ Relative humidity 相对湿度: 45 ~ 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 shall be employed: 但是 对判定产生疑义时,按下述状态实施: Ambient temperature 温 度:20±2℃ 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			
No. 序号	Item 项目	Test condition 试 验 条 件	Performance 规 格
2.1.1	Contact Resistance 接触电阻	Push force: (Operation force) x 2。 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, 20mV, 5~50mA)	100mΩ MAX 100mΩ 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 100MΩ 以上
2.1.3	Withstand Voltage 耐电压	AC 250V for 1 min (Between terminals) 不相接的两端子间、端子与塑胶间施加AC 250V 的电压	No insulationdestruction. 无绝缘破 .
2.1.4	Bouncing 触点抖动	Operation speed : 3~4 times/s 操作速度: 每秒3~4次 	ON: 3ms max 以下 OFF: 8ms max 以下

2. 2 Mechanical Characteristics机械性能																											
No. 序号	Item 项目	Test condition 试验条件	Performance 规格																								
2. 2. 1	Operation Force 动作力	Push by recommended operating condition. 测量时 开关的顶端的面中央、按开关动作方向 匀施加静负荷。 	Push force按压力: 1.97 $\pm 0.49\text{N}$ ($200 \pm 50\text{gf}$) return force 弹力: 0.49N min (50gf 最小)																								
2. 2. 2	Travel to closure 动作行程	Push by recommended operating condition. $F = (\text{Operation force}) \times 2$ 开关的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整	$0.15 \pm 0.05\text{mm}$																								
2. 2. 3	Push trength 按压强度	30N (3Kgf) for 1 minute 开关驱动器件顶端的中央, 按压力方向加30N (3Kgf) 压力, 作用60秒。	No damage (Electrical and mechanical) 无异常 (电气、机械性能)																								
2. 2. 4	Terminal strength 端子强度	A static load of 300gf shall be applied to the tip of the terminal for 15 sec in any dircetion 任意一个方向的顶端加上300gf力度测试, 时间为15秒。	No damage (Electrical and mechanical) 端子没有裂开, 松动 等异常, 满足于机械, 电器性能。																								
2. 2. 5	Vibration test 耐振性	1) Amplitude 全振幅: 1.5 mm 2) Sweep rate: 10-55-10HZ for 1 minute 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 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. 6	Soldering heat test 耐焊接热 For reflux welding 适用于 流焊	Peak temperature: $250 \pm 5^\circ\text{C}$ 峰值温度: $250 \pm 5^\circ\text{C}$ Peak time: 10 secMax. 峰值时间: 10秒以内	No damage electrical and mechanical) 无异常。(电气、机械特性)																								
2. 2. 7	Solderbility 可焊性	After sprated flux 涂上助焊剂后 temperature: $245 \pm 5^\circ\text{C}$ 温度: $245 \pm 5^\circ\text{C}$ soldering time: $3 \pm 0.5\text{ sec}$ 焊接时间: 3 ± 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. 8	Reflow soldering heat test 流焊耐热试验	 <table border="1" data-bbox="343 1982 1029 2128"> <thead> <tr> <th>Parts</th><th>Temperature(°C)</th><th>Time al temperature(sec)</th><th>Treatments</th></tr> </thead> <tbody> <tr> <td>A</td><td>N0~150</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>recirculaion zone</td></tr> <tr> <td>E</td><td>220 to N0</td><td>40~80S</td><td>Cooling zone</td></tr> </tbody> </table>	Parts	Temperature(°C)	Time al temperature(sec)	Treatments	A	N0~150	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)	recirculaion zone	E	220 to N0	40~80S	Cooling zone	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。
Parts	Temperature(°C)	Time al temperature(sec)	Treatments																								
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2.3 Climatic characteristics 耐候性能			
No. 序号	Item 项目	Test condition 试验条件	Performance 规格
2.3.1	Cold test 耐寒性	1) Temperature : $-40\pm 2^{\circ}\text{C}$ 温度: $-40\pm 2^{\circ}\text{C}$ 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 试验后的放置条件: 1 小时	Contact resistance: 200m Ω max 接触电阻: 200m Ω 以下 Insulation resistance: 10M Ω min 绝缘电阻: DC 100V, 大于10M Ω Withstand voltage: No. destruction. 耐电压: 无绝缘破 . No. 2.2.1 to 2.2.2 shall be satisfied 满足2.2.1到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) Standard conditions after test : 1h 试验后的放置条件: 1 小时	Contact resistance: 200m Ω max 接触电阻 200m Ω 以下 Insulation resistance: 10M Ω min 绝缘电阻: DC 100V, 大于10M Ω Withstand voltage: No. destruction. 耐电压: 无绝缘破 . No. 2.2.1 to 2.2.2 shall be satisfied 满足2.2.1到2.2.2项.
2.3.3	Temperature cycle 温度循环	According to following figure, after 5cycles, test after keeping in normal condition for 1h. 如 示环境中, 循环5次后, 放置 正常环境中, 1小时后进行测量。 	Contact resistance: 200m Ω max 接触电阻 200m Ω 以下 Insulation resistance: 10M Ω min 绝缘电阻: DC 100V, 大于10M Ω Withstand voltage: No. destruction. 耐电压: 无绝缘破 . No. 2.2.1 to 2.2.2 shall be satisfied 满足2.2.1到2.2.2项.
2.3.4	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 试验后的放置条件: 1 小时	Contact resistance: 200m Ω max 接触电阻 200m Ω 以下 Insulation resistance: 10M Ω min 绝缘电阻: DC 100V, 大于10M Ω Withstand voltage: No. destruction. 耐电压: 无绝缘破 . No. 2.2.1 to 2.2.2 shall be satisfied 满足2.2.1到2.2.2项.

2.3.5	Endurance (switching) action 耐久特性 (开关寿命)	1) Operation speed : 1 times / s 动作速度: 1 次/ 秒 2) Push force : Maximum value of operation force 按力: 操作力规格值的上限 3) Operation number: 100,000 times 动作次数: 100,000 次 4) The diameter of the test head is between $\phi 1.0$ and $\phi 1.5$, and the maximum drop between the test head and the top of the sample handle cannot exceed 4.0 mm. 测试头直径为 $\phi 1.0 \sim \phi 1.5$ 之间, 测试头与样本柄顶端落差最大不能超出 4.0 mm 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: 10MΩ min 绝缘电阻: DC 100V, 大于 10MΩ Withstand voltage: No. destruction. 耐电压: 无绝缘破 . Variation rate of operation force shall be within $\pm 30\%$ to the value before testing 动作力的变化范围 初始值的 $\pm 30\%$ 以内 No. 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 ± 1 ppm 浓度 : 3 ± 1 ppm 2) Temperature : $40 \pm 2^\circ\text{C}$ 温度 : $40 \pm 2^\circ\text{C}$ 3) Relative humidity : 90~95% 相对湿度: 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	Contact resistance: 200mΩ max 接触电阻 200mΩ 以下 Insulation resistance: 10MΩ min 绝缘电阻: DC 100V, 大于 10MΩ Withstand voltage: No. destruction. 耐电压: 无绝缘破 . No. 2.2.1 to 2.2.2 shall be satisfied 满足 2.2.1 到 2.2.2 项.
2.3.7	Salt mist test 盐雾实验	At 5% nacl liquor for 24 hours hours depend on 35°C, after washing, keep in normal condition. 5% 的 nacl 溶液, PH 值: 6.5~7.2, 35°C 的条件下喷雾。铜材 24 小时, 用水清洗干净后并 室温下晾干	No remarkable corrosion shall be recognized in metal part. 金属件上没有腐蚀斑点。
2.3.8	Shock test 耐冲击性	Measure after test at a condition below 下列条件下进行测试后的量度 Peak acceleration: 500m/S² 冲击加速度: 500m/S² Pulse duration 11ms 脉冲持续时间 11ms Test time-6 direction, each 3 times total 18 times 测试次数-6 个方向, 各 3 次共计 18 次。 	Contact resistance: 200mΩ max 接触电阻 200mΩ 以下 Insulation resistance: 10MΩ min 绝缘电阻: DC 100V, 大于 10MΩ Withstand voltage: No. destruction. 耐电压: 无绝缘破 . No. 2.2.1 to 2.2.2 shall be satisfied 满足 2.2.1 到 2.2.2 项.

3. Precaution
注意事项

3.1 Soldering condition
浸焊条件

ITEM 项目	CONDITION 条 件
Preheat temperature 预热温度	110°C max (Embilomental temperature of soldering surface of P. C. B) 110°C以下(印刷基板焊锡面周 的温度)
Preheat time 预热时间	60 sec, max 60 秒以内
Area of flux 助焊剂的面积	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	Peak temperature of reflow welding: 250 ± 5°Max 流焊的峰值温度: 250±5°C以下
Peak time for reflow welding 流焊的峰值时间	Within 10 sec 10秒以内
Soldering number 浸焊次数	This product recommends only once reflow welding, if the second repair welding is required, it is best to use manual welding. 该产品建议只过1次 流焊, 若需第2次补焊, 最好是采用手工焊接。
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 清洗.
- 2) In the case of using soldering iron, soldering conditions shall be 350°C max and 3 sec. max 使用烙铁的情况下,焊锡温度应 350°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 顶部施加负荷.
- 4) **This product is an ultra-thin thin film switch. During the SMT reflow welding process, it should be noted that the amount of brush tin on the solder plate must not be excessive(tin surface should not exceed 0.10 mm), and the furnace temperature must not exceed 260 ° C. Can not go through 2 or more reflow welding(multi-layer PCB board is recommended for final process welding), otherwise it will help the risk of flux immersion and loss of PI film.**
此款产品为超薄 的薄膜开关, SMT 流焊工序时,要注意: , 焊盘刷锡量不能过多(锡面以不超过0.10mm为准), 炉温不能超过260°C, 不能经过2次或以上 流焊(多层PCB板建议放 最后工序焊接), 否则会有助焊剂浸入和掉PI膜的风险。

3. 2 Design instructions(设计中应注意的事项)

- 1) Follow recommended P. C. B. piercing plan in outside drawing page.
印刷基板的安装孔尺寸参见产品 .

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.
The stock time is not recommended to exceed 6 months, as the shelf life of the general plating parts is 6 months.
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.
库存时间建议不要超过6个月, 叠一般电镀件保质期时间为6个月。

备注:

1		2		3		4		5		6		7		8	
SAMZO		REAC/ROHS								REV	ECN NO	DESRIPTION	DESIGN	APPROVAL	DATE
										A1	NEW	Replace frame			2018.06.14