



三佐部品【中国】有限公司

Samzo Parts Electronics 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: _____ MICRO SWITCH
贵公司规格 APPROVAL DAT: _____	本公司规格 PRODUCT CODE: _____ MG100411A01
客户料号 CUSTOMER NO: _____	本公司规格书编号 PRODUCT DRAWING NO: _____ 20170710004

	批准 APPROVAL	审核 CHECK	设计 DESIGN
<input type="radio"/> 新品承认 NEW APPROVE	<div style="border: 2px solid red; border-radius: 50%; padding: 10px; display: inline-block;"> 批准 李先缘 </div>	<div style="border: 2px solid red; border-radius: 50%; padding: 10px; display: inline-block;"> 审核 周颖鑫 </div>	<div style="border: 2px solid red; border-radius: 50%; padding: 10px; display: inline-block;"> 设计 颜明玉 </div>
<input type="radio"/> 规格书变更承认 CHANGE CODE APPROVE AGAIN			
<input type="radio"/> 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!

深圳市三佐部品电子有限公司

Shenzhen City Samzo Parts Electronics Co., Ltd.

电话 : 0769-82625505 电话 : 0769-82625503

邮箱 : samzohk@163.com 网址 : www.szo.hk

地址 : 东莞市塘厦镇128长埔工业H109-110栋

世界零部件制造商

- -SAMZO- -



ISO9001 ISO14001

认证企业

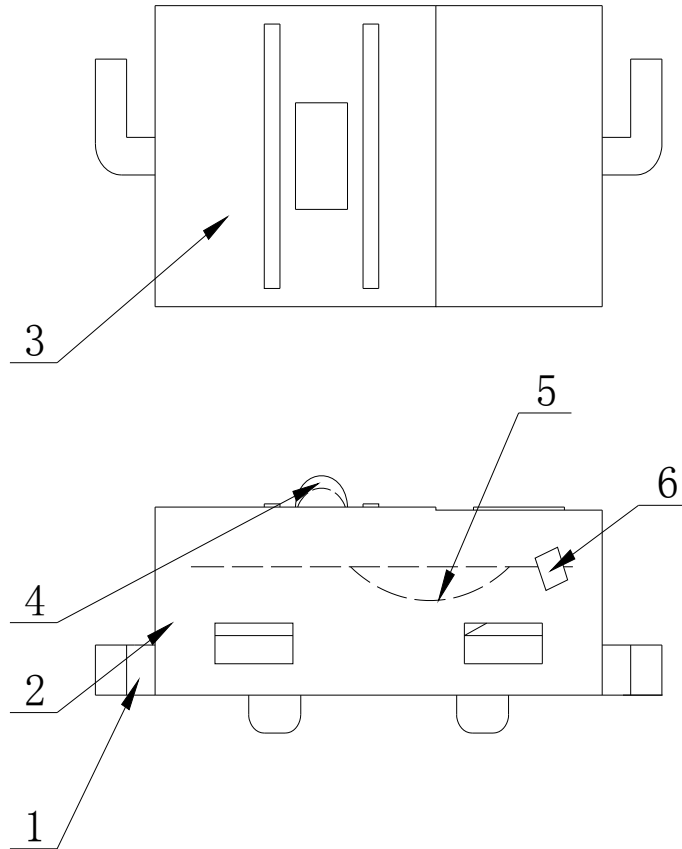
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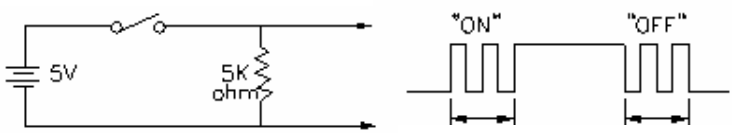
SERIES 系列		MICRO SWITCH		ISSUANCE DATE 日期:		2018	
Document No.文件编号				Edition 版本		C	
				Page 页码		3/6	
Material list 材料清单							
NO.	Part Name 品名	Q'TY 数量	Generic Class 材质	Remark 备注			
1	Terminal 端子	2	C2680				
2	Base 底座	1	LCP				
3	Case 上盖	1	LCP				
4	Button 按钮	1	LCP				
5	Spring Plate 弹片	1	C1720				
6	Contact 接点	1	Silver alloy 银合金				

Structure chart:

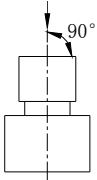
结构示意图:



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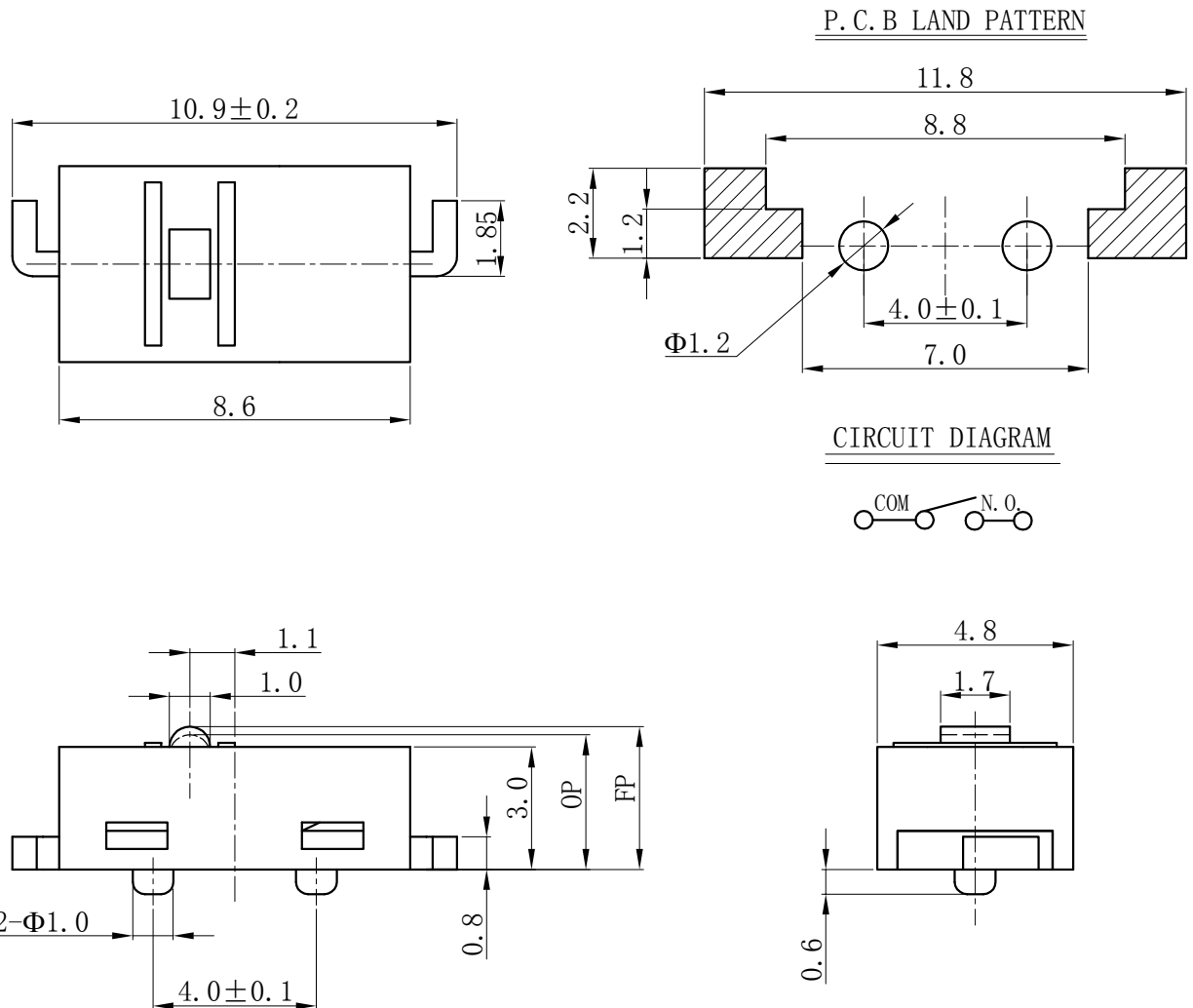
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1、General(一般特性) :					
1.1 Switch rating:		DC48V 0.1A/AC125V 0.1A (规格: DC48V 0.1A/AC125V 0.1A)			
1.2 Operating temperature range		-25°C~80°C (操作温度范围: -25°C~80°C)			
1.3 Preservative temperature range		-30°C~85°C(储存温度: -30°C~85°C)			
1.4 Storage humidity range		<85%RH (储存湿度: <85%RH)			
2.Performance 功能参数					
2.1 Electrical characteristics(电气特性)					
Items 项目		Test conditions 测试条件		Criteria 标准	
2.1.1	Contact resistance 接触电阻	<p>Applying a static load twice the operating force to the button, measurements shall be made between the terminals.</p> <p>Measurement shall be made with a stabilization contact resistance meter for 2 mΩ precision under the condition which a voltage of DC5V and a current of 0.1A shall be applied between the terminals.</p> <p>在按钮上施加两倍操作力的静负荷值, 采用精度为 2 mΩ 高稳定度线性毫欧表, 在 DC5V, 0.1A 的条件下测量端子两端接触电阻。</p>		Refer to individual product drawing 参考规格图纸	
2.1.2	Insulation resistance 绝缘电阻	<p>Spec. voltage (Refer to 2.3 item of spec. drawing) is applied between each pair of terminals and between the terminal and the metal frame for one minute.</p> <p>Measurement shall be made with a test instrument of insulation resistance under the condition which a voltage of spec. voltage is applied between the terminals.</p> <p>采用绝缘电阻测试仪, 分别在相互绝缘的所有端子之间及各接线端子与外露的非金属零件之间加载规格电压(参见规格图 2.3 项), 持续 1 分钟测试绝缘电阻。</p>		Refer to individual product drawing 参考规格图纸	
2.1.3	Dielectric withstand in voltage 耐压强度	<p>Spec. voltage (Refer to 2.4 item of individual product drawing) shall be applied across terminals and frame for one minute.</p> <p>在端子两端之间加载规格电压(参见规格图 2.4 项), 持续时间为 1 分钟。</p>		There shall be no breakdown 无电击穿等异常。	
2.1.4	Bounce 灵敏度	<p>Lightly striking the center of the button at a rate encountered in normal use (3 to 4 operating per sec.) bounce shall be tested at "ON" and "OFF".</p> <p>以 3-4 次/秒的频率施加正常力于按钮上, 操作之动作则可测出 "ON"、"OFF" 之功能。</p> 		5ms max	

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Items 项目		Test conditions 测试条件				Criteria 标准	
3.Mechanical characteristics 机械特性							
3.1	Free Position 自由位置	Position of switch plunger or actuation when on external force is applied. 开关不受外力时之位置。				Refer to individual product drawing 参考规格图纸	
3.2	Operating Position 动作位置	Position of switch plunger or actuator at which point contacts snap from normal to operated position. Note that the case of flexible of adjustable actuators. 开关操动件受到外力后, 由自由状态切换到动作状态的动作位置。 (注意防止盖片变形或按钮倾斜现象。)				Refer to individual product drawing 参考规格图纸	
3.3	Operating Force 操作力	Placing the switch such that the direction of switch operation is vertical, and then gradually increasing the load applied to the button, the maximum load for the button to come to operating position shall be measured. 置开关于垂直状态, 渐增力度使按钮至动作位置为最大值之力度。				Refer to individual product drawing 参考规格图纸	
3.4	Terminal Strength 端子强度	Placing the switch such that the direction of switch operation is vertical, a static load of 1kgf Max shall be applied to the tip of the terminal in the direction of operation for one minute. 置开关于垂直状态, 动作端子顶端接线端强度 1kgfMax, 时间为 1 分钟。				There shall be no sign of damage mechanically and electrically. 机械性能、电气性能无损害现象。	
3.5	Button Strength 按钮强度	Placing the switch such that the direction of switch Operation is vertical, a static load of 1kgf Max shall be applied to the center of the button in the direction of button operation for one minute. 置开关于垂直状态, 在端子接线端顶端施加 1kgf Max 力, 时间为 1 分钟。					
4. Soldering characteristics 焊接性能							
4.1	Hand soldering 手工焊	Use a soldering iron of 30 watts , controlled at 350~360°C approximately 3 seconds while applying solder. 焊接时需 30 瓦烙铁, 控制于 350~360°C, 大约 3 秒钟条件下进行。				(1)A new uniform coating of solder shall cover a minimum of 90% of the surface being immersed. (2)There shall be no defects in appearance or in the mechanical functions. (1)覆锡性能达到浸入表面的 90% 以上 (2)没有出现任何外观和机械功能上的损伤。	

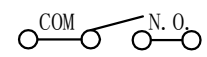
SWITCH TYPE	Micro Switches	MODEL NO.	MG100411A01
1. Functional spec.			
1.1 Rated Voltage	DC48V/AC125V	1.6 Free Position	3.5±0.3mm
1.2 Rated Current	0.1A	1.7 Operating Position	3.3±0.3mm
1.3 Contact Resistance	≤300mΩ (Initial value)	1.8 Position Travel	
1.4 Operating Force	60±20gf	1.9 Bounce Time	
1.5 Return Force		1.10	
2. Reliable Rating			
2.1 Mechanical Life	3,000,000 cycles	2.5 Soldering Temper.	Reflow Soldering
2.2 Electrical Life	3,000,000 cycles	2.6 Ambient Temper. Used	-25℃ - +85℃
2.3 Insulation Resistance	≥100MΩ DC500V (Initial value)	2.7 Ambient Humidity Used	<85%RH
2.4 Withstand Voltage	AC1000V 1 minute (Initial value)	2.8	

3. Dimension Drawing



P. C. B LAND PATTERN

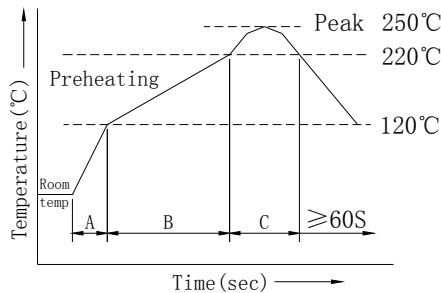
CIRCUIT DIAGRAM



DICGU Dwg No.	MG100411A01	DICGU REV	A	Page 1 of 1	
Drawing Model	Specification	Tolerance	±0.2	Unit	mm
Prepared	Tony Xu	Reviewed	Reviewed	Approved	

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Items 项目	Test conditions 测试条件	Criteria 标准																					
4.2 Reflow soldering 回流焊	<p>When applying reflow soldering, the peak temperature of the reflow Oven should be set to 250°C max. 当使用回焊炉进行焊接时，最高温度设置为 250°C。</p> <p>Condition for soldering (Reflow & Non-washable Type) Temperature Profile 焊接温度曲线图如下:</p>  <table border="1" data-bbox="459 929 986 1164"> <thead> <tr> <th>Components size</th> <th></th> <th>Unit</th> </tr> </thead> <tbody> <tr> <td>A</td> <td>Temp. rise gradient 温度上升</td> <td>40S sec</td> </tr> <tr> <td rowspan="2">B</td> <td>Heating time 加热时间</td> <td>60-120S sec</td> </tr> <tr> <td>Heating temperature 加热温度</td> <td>120-220°C °C</td> </tr> <tr> <td rowspan="3">C</td> <td>Time over 220°C 超过220°C的时间</td> <td>60-90S sec</td> </tr> <tr> <td>Peak temperature 最高温度</td> <td>250 °C</td> </tr> <tr> <td>Peak-temp. hold time 耐最高温时间</td> <td>3 sec</td> </tr> <tr> <td colspan="2">Soldering 焊接次数</td> <td>1 times</td> </tr> </tbody> </table>	Components size		Unit	A	Temp. rise gradient 温度上升	40S sec	B	Heating time 加热时间	60-120S sec	Heating temperature 加热温度	120-220°C °C	C	Time over 220°C 超过220°C的时间	60-90S sec	Peak temperature 最高温度	250 °C	Peak-temp. hold time 耐最高温时间	3 sec	Soldering 焊接次数		1 times	<p>There shall be no defects in appearance or in the mechanical functions. 没有出现任何外观和机械功能上的损伤。</p>
Components size		Unit																					
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Soldering 焊接次数		1 times																					

5. Durability characteristic:耐久性能

5.1	Mechanical life 机械寿命	<p>(1) Without loading 无负载</p> <p>(2) Operating speed : 120 cycles/minute 操作频率: 120 次/分钟</p> <p>(3) Push force : maximum value of operating force twice 推动力: 操作力的最大规格值的两倍</p> <p>(4) Life: 3,000,000 cycles 寿命: 3,000,000 次</p>	<p>After test:</p> <p>(1)Contact resistance: 1 ohm Max.</p> <p>(2)Insulation resistance: 10M ohm Min.</p> <p>(3)Bounce: 5m sec. Max.</p> <p>(4)Withstand voltage: AC250V, 1 minute</p> <p>(5)Operating force: 30% of initial value</p> <p>(6)There shall be no defects in appearance or in the mechanical functions. 试验后:</p> <p>(1)接触电阻:1 欧姆以下</p> <p>(2)绝缘电阻:10 兆欧姆以上</p> <p>(3)灵敏度: 5 毫秒以下</p> <p>(4)耐压强度: AC250V, 1 分钟</p> <p>(5)操作力度:测试初始值 30%以内</p> <p>(6)没有出现任何外观和机械功能上的损伤。</p>
	Electrical life 电气寿命	<p>(1) Operating speed : 10 cycles/minute 操作频率: 10 次/分钟</p> <p>(2) Push force : maximum value of operating force twice 推动力: 操作力的最大规格值的两倍</p> <p>(3) which the load of AC125V 0.1A 负载为 AC125V 0.1A Life: 3,000,000 cycles 寿命: 3,000,000 次</p>	