

APPROVAL SPECIFICATIONS

Title: PUSH SWITCH

Product Model: PS22F02L-2B2-21

Customer's Part NO. _____

Customer's Model: _____

Customer's Approval Requested.

Please return this copy as a certification of your approval.

Checked by: _____ **Date:** _____

Approved by: _____ **Date:** _____

APPROVE	REVIEW	POLT
Jack Wu	孙斌	盛方坤



GANGYUAN

APPROVAL SPECIFICATIONS

CUSTOMER	CUSTOMER' S P/N	GYE' S P/N	PRODUCT	REVISION
		PS22F02L-2B2-21	PUSH SWITCH	A
GYE' S P/N 港源料号		PS22F02L-2B2-21		
VER	MINUTE OF CHANGES		CHECK	RELEASE DATE
版本	变更记录		确认	变更日期
A	Chinese-English Contrast Edition 中英文对照版本			



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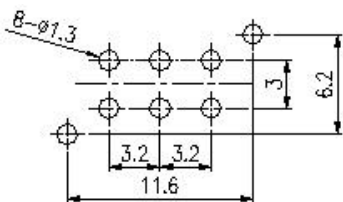
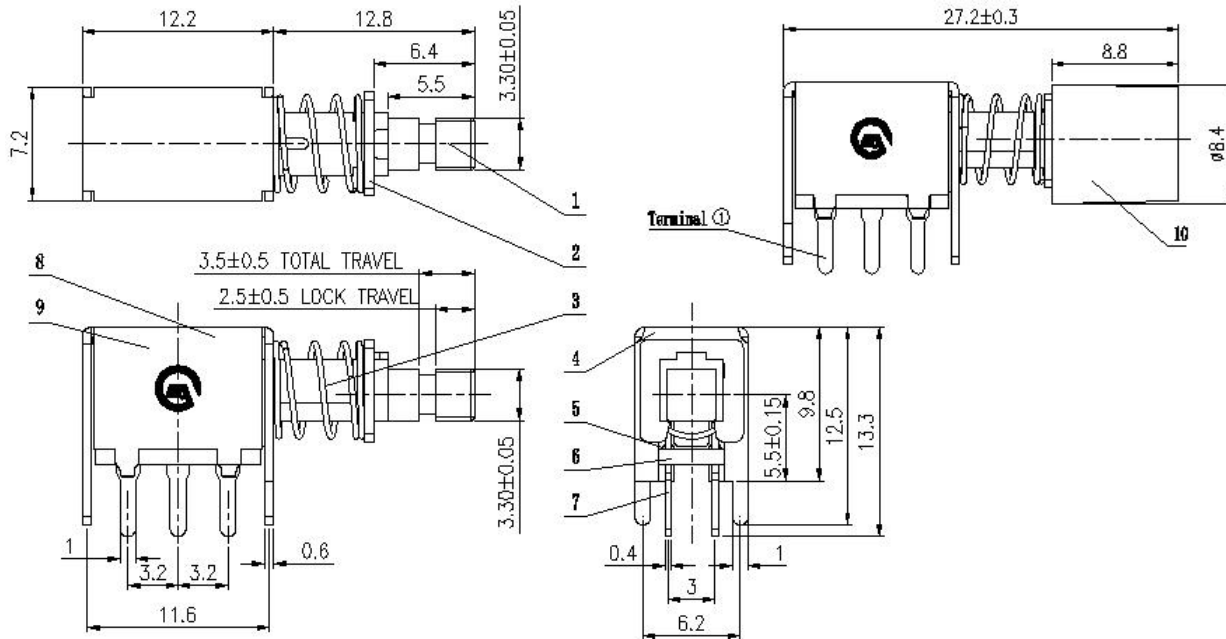
7 . OTHER PRECAUTIONS 其他预防



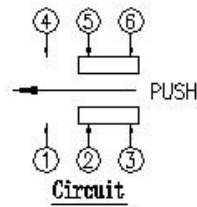
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P. C. Board Dimension



Circuit

Tolerance:

Within 1.5mm: $\pm 0.15\text{mm}$

OVER 1.5mm: $\pm 0.3\text{mm}$

NO.	NAME	MATERIAL	QTY	FINISHING
1	KNOB	PA66	1	Blue
2	SPRING PLATE	SPCC	1	Ni Plated
3	SPRING	SUS	1	Ni Plated
4	FRAME	SPCC	1	Ni Plated
5	CONTACT CLIP	PBS	2	Ag CLAD
6	BOARD	PHENOLIC RESIN	1	Yellow
7	TERMINAL	BRASS	6	Ag Plated
8	BLOCK	PBS	1	Natural
9	LOCK NEEDLE	PBS	1	Natural
10	Button	ABS	1	White



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1. RATING (额定值) : DC50V 0.3A
2. FUNCTION (接触型式) : 2P2T
3. TIMING (时间特性) : NON-SHORTING
4. ELECTRICAL CHARACTERISTICS (电气性能规格):

项 目 ITEM		试 验 条 件 TEST CONDITIONS	要 求 REQUIREMENTS
4.1	接触电阻 Contact Resistance	用 100 mA 以下的微小电流进行测试 Measured at small current (100 mA or less)	$\leq 30m\Omega$
4.2	绝缘电阻 Insulation Resistance	输入 DC 500V 电压 1 分钟, 按以下接触方法测试: Apply a voltage of DC 500V shall be applied for 1 min. After which measurement be made: (1) 不接触的插脚之间 Between conductors not to be contact (2) 插脚与外壳之间 Between individual terminals and frame	$\geq 100M\Omega$
4.3	介质耐压 Dielectric voltage proof	输入 AC 500V(50-60HZ) 电压 1 分钟, 感应电流为 0.5mA, 按以下接触方法测试: AC 500V rms (50-60Hz) For 1 MIN , trip current:0.5mA (1) 不接触的插脚之间 Between conductors not to be contact (2) 插脚与外壳之间 Between individual terminals and frame	无击穿、无飞弧 There should be no breakdown and flashover



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项 目 ITEM	试 验 条 件 TEST CONDITIONS		要 求 REQUIREMENTS	
5. MECHANICAL CHARACTERISTICS (机械性能规格):				
5.1	操作力 Operating Force	开关垂直于操作方向放置, 在开关按键顶端中心逐渐施力, 测量按键停止所需的最大力度。(在距离胶柄前端 3mm 处作为测定点) Placing the switch such that the direction of switch operation is vertical and then gradually increasing the load applied to the center of the KNOB, the maximum load required for the KNOB to come to a stop shall be measured. (Point of the component or at the point 3mm from the tip of the actuator (KNOB))	250 ± 100 gf	
5.2	端子强度 Terminal Strength	在插脚前端任意一个方向加 500gf 力度测试, 时间为 15 秒 A static load of 500gf shall be applied to the Terminal for 15 Sec. in any direction.	插脚中没有裂开、松动异常, 满足于机械, 电气性能 Electrical characteristics shall be satisfied without damage or excessive looseness of terminals	
5.3	柄 强 度 Displacement of KNOB	在柄的前端施加 9.8N (1kgf) 的力度, 位移应沿印记的方向上测定 A static load of 9.8 N(1kgf) shall be applied to the Top of the KNOB and then displacement shall be measured to the direction of the arrow	柄部无严重变形, 可以正常工作. The lever shall have no serious deformation and function is normally.	
5.4	测试标准状态 Standard atmospheric conditions	在没有指定的情况下测试温度、湿度、气压如下: Unless otherwise specified. the standard range of atmospheric conditions for making measurements and tests are as follows: (1) 温度为 5~35℃ (2) 湿度为 45%~85% (3) 气压为 80Kpa~106Kpa (1) AMBIENT TEMPERATURE: 5°C TO 35°C (2) RELATIVE HUMIDITY : 45% TO 85% (3) AIR PRESSURE : 80Kpa TO 106Kpa		
5.5	使用温度范围 Practical temperature range	在-16℃~+60℃的温度内使用 -16℃~+60℃		



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项 目 ITEM	试 验 条 件 TEST CONDITIONS			要 求 REQUIREMENTS
6. ENDURANCE CHARACTERISTICS (耐久性):				
6.1	寿命实验 Life test	<p>根据下面的测试要求进行测试: Measurement shall be made following the test set forth below:</p> <p>(1) 无负载 Without load</p> <p>(2) 按动速率: 15~20 次循环/分 Rate of operation: 15~20 cycles/min</p> <p>(3) 寿命: 10, 000 次循环 Life: 10,000 cycles</p>		接触电阻 $\leq 100\text{m}\Omega$ Contact resistance $\leq 100\text{m}\Omega$ 绝缘电阻: $\geq 50\text{M}\Omega$ Insulation resistance: $\geq 50\text{M}\Omega$ 按力: 初值的 $\pm 30\%$ Operating Force: initial value $\pm 30\%$ 项目 3, 4.1, 4.2, 4.3 Item 3, 4.1, 4.2, 4.3 (4) Without damage to parts or arcs or breakdown ETC. 测试后外表无损伤, 并且满足机械性能
6.2	可焊性实验 Solderability test	<p>端子顶部被浸入锡焊池中 2mm 深, 温度为 $245\pm 5^\circ\text{C}$, 时间为 $3\text{s}\pm 0.5\text{s}$.</p> <p>The top of the terminals shall be dipped 2MM in the solder bath of $245\pm 5^\circ\text{C}$ for 3 ± 0.5 seconds.</p> <p>对于其它步骤参考《GB 5095.6—86》试验 12a The other steps please refer to 《GB 5095.6—86》TEST 12a</p>		焊接面积应均匀覆盖 90% 以上。 The area of soldering should be over 90%.
6.3	耐焊性实验 Resistance to soldering heat test	<p>焊炉焊接的时候温度控制在 $260\pm 5^\circ\text{C}$, 过炉时间 3 ± 0.5 秒, 基板厚度为 1.6mm.</p> <p>Solder bath method: Solder temperature $260\pm 5^\circ\text{C}$ Immersion time 3 ± 0.5 sec Immersion depth up to the surface of the board thickness of printed wiring board 1.6mm dimensions of component holes in the printed wiring board shall be accordance with those specified in this specification.</p>		接触电阻: $\leq 100\text{m}\Omega$ Contact resistance: $\leq 100\text{m}\Omega$ 项目 3, 4.1, 4.2, 4.3 Item 3, 4.1, 4.2, 4.3 There shall be no deformation or cracks in molded part.
6.4	耐热实验 Heat test	<p>将产品放置在温度 $80\pm 2^\circ\text{C}$ 的环境中 96 小时后, 再放置在常温常湿的环境中 1 小时后做性能测试。</p> <p>The switch shall be stored at a temperature of $80\pm 2^\circ\text{C}$ for 96 hours. Then the switch shall be maintained at standard atmospheric conditions for 1 hour after which measurement shall be made.</p>		外观无异常, 满足于机械、电气性能。



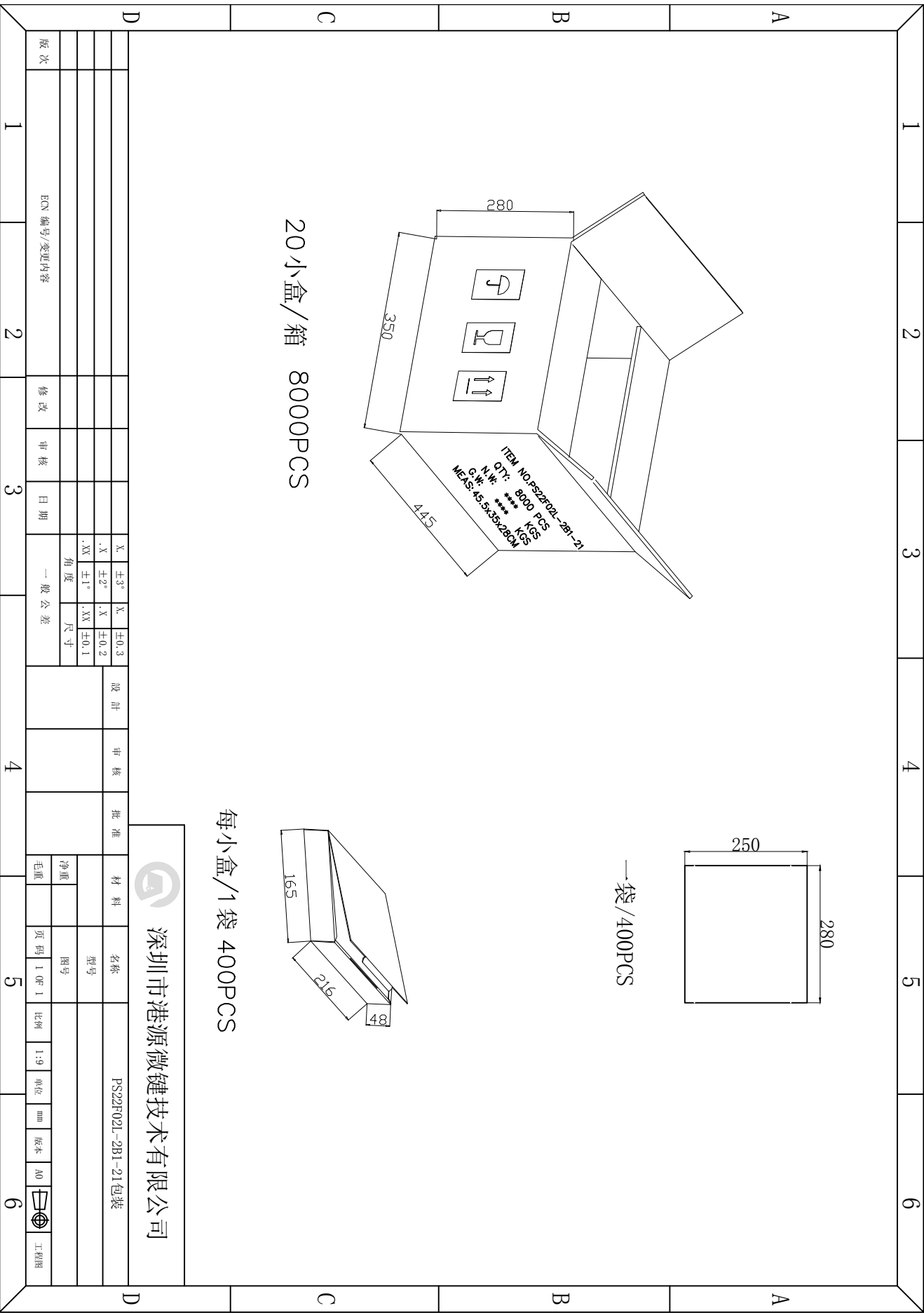
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6.5	耐冷实验 Cold test	<p>将产品放置在温度$-30\pm 3^{\circ}\text{C}$的环境中 96 小时后,再放置在常温常湿的环境中 1 小时后做性能测试。</p> <p>The switch shall be stored at a temperature of $-30\pm 3^{\circ}\text{C}$ for 96 hours. then the switch shall be maintained at standard atmospheric conditions for 1 hour after which measurement shall be made.</p>	<p>接触电阻: $\leq 100\text{m}\Omega$</p> <p>Contact resistance: $\leq 100\text{m}\Omega$</p> <p>项目 3, 4.1, 4.2, 4.3</p> <p>Item 3, 4.1, 4.2, 4.3</p>	
6.6	潮湿实验 Humidity test	<p>将产品放置在温度为 $40\pm 2^{\circ}\text{C}$、相对湿度为 90%~95%的环境中 96 小时后,再放置在常温常湿的环境中 1 小时后做性能测试。</p> <p>The switch shall be stored at a temperature of $40\pm 2^{\circ}\text{C}$ and a humidity of 90% to 95% for 96 hours. Then the switch shall be maintained at standard atmospheric condition for 1 hour after which measurement shall be made.</p>	<p>外观无异常,满足于机械、电气性能。</p> <p>There shall be no deformation or cracks in molded part.</p>	
6.7	盐雾实验 Salt Mist	<p>在以下设定条件下进行测试:</p> <p>The switch shall be checked after following test:</p> <p>(1) 温度: $35^{\circ}\text{C}\pm 2^{\circ}\text{C}$ Temperature: $35^{\circ}\text{C}\pm 2^{\circ}\text{C}$</p> <p>(2) 盐溶液浓度: $5\pm 1\%$ (质量百分比)</p> <p>salt solution: $5\pm 1\%$(solids by mass)</p> <p>(3) 时间: $8\text{h}\pm 1\text{h}$ Time: $8\text{h}\pm 1\text{h}$</p> <p>(4) 实验后的盐沉积物用清水冲干净</p> <p>After test, salt deposit shall be removed by running water</p>	<p>金属件上没有腐蚀斑点</p> <p>No remarkable corrosion shall be recognized in metal part.</p>	

7. Other Precautions 其他预防

依照耐焊接热的程序操作, 不得使用溶剂或类似液体清洗开关;
Following the soldering process, do not try to clean the switch with a solvent or the like.

保护开关并防止助焊剂从开关顶部渗入;
Safeguard the switch assembly against flux penetration from its topside.

请把产品置于密封处, 出货后储存有效期 90 天。
Please have the products keep in close status and the storage time is 90 days guaranty after delivering the goods.



20小盒/箱 8000PCS

每小盒/1袋 400PCS

一袋/400PCS

版本	ECN 编号/变更内容	修改	审核	日期	一般公差	尺寸	公差	设计	审核	批准	材料	名称	型号	图号	比例	单位	版本	AO	工程图
					±0.3	±0.1	±0.3					PS22F02L-2B1-21 包装			1:1	mm			
					±0.2	±0.1	±0.2								1:1	mm			
					±1°	±0.1	±1°								1:1	mm			
					角度	尺寸	公差								1:1	mm			
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深圳市港源微键技术有限公司