

ISO9001: 2008

ISO14001: 2004

APPROVAL SPECIFICATIONS

Title: PUSH SWITCH

Part NO: PB21E09471

Customer's Part NO.

Model:

Customer's Approval Requested.

Please return this copy as a certification of your approval.

Checked by: _____ Date: _____

Approved by: _____ Date: _____

APPROVE	REVIEW	POLT
彭飞	刘叶泉	卢娇



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A. Specification & meanings

The name of the tact switch is composed by type and specification, the particular meaning of the type、specification and code is as follows.



- 1、主称代号：自无锁开关代码
- 2、开关线路代号： 1：代表反向线路 2：代表正向线路
- 3、开关有无挂钩： 1：代表开关无锁无响 2：代表开关有锁 3：代表无锁有响
- 4、开关焊接方式： E：代表插板焊接 M：代表贴片焊接

5、 Product appearance size, as chart 2 shows:

产品外形尺寸

Code	Product size	Code	Product size	Code	Product size
09	8.5*8.5				

表 1

6、 Stem color: It is expressed by a figure, as chart 2 shows:

Color	透明/本色	黑色	红色	白色	蓝色	黄色	天蓝色	深灰色
Code	0	1	2	3	4	5	6	7

表 2

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7、Products cover color, as chart 3 shows:

颜色	透明/ 本色	黑色	红色	白色	蓝色	黄色	天蓝色	深灰色	浅灰色	绿色
代码	0	1	2	3	4	5	6	7	8	9

表 3

8、The base color, as chart 4 shows:

颜色	透明/ 本色	黑色	红色	白色	蓝色	黄色	天蓝色	深灰色	浅灰色	绿色
代码	0	1	2	3	4	5	6	7	8	9

表 4

9、包装方式： 1：代表胶袋包装（可省略）， 2：代表吸塑盒包装

10、衍生（表 5）：（无衍生号可省略,有两种以上衍生，按代码大小顺序填写，例：平头长柄为 0104）

说明	平头	防锈	防火	长柄	连座
代码	01	02	03	04	05
说明	吉丰	成义	接触电阻 100 毫欧	4.4mm 300gf	300gf
代码	06	07	08	09	10
说明	2 只脚	4 只脚	Ag3um 防锈油	5 只脚	0611 弯脚
代码	11	12	13	14	15
说明	加盖子	接触片三个点	中辰	湖北港源	Ag3um
代码	16	17	18	19	20
说明	Ag0.3um	不锈钢弹簧	PPA（耐高温）底座		
代码	21	22	23	24	25
说明					
代码	26	27	28	29	30

表 5

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GENERAL MATTERS 总则

1.1 Application : This specification is applied to low current circuit push switch for electronic equipment.

应用范围：本规范适用于低电流电路开关电子

1.2 Operating Temperature Range : -10°C ~ 60°C

工作温度范围：(-10°C—+60°C)；

1.3 Storage temperature range : -30 ~ 80°C. However, 96 hours maximum for continuous storage over a range -20 ~ -30°C and a range 70 ~ 80°C.

储温度范围:-30 ~ 80°C，然而,最大连续 96 小时存储在一个范围-20 ~ -30°C和 70 ~ 80°C 范围

1.4 Test Condition :

测试条件

The standard test conditions shall be 5°C~ 35°C in temperature, 45 ~ 85% RH and 860~1060mbar in atmospheric pressure. Should any doubt arise in judgment, tests shall be conducted at 20±2°C, 65±5% RH and 860~1060mbar

标准测试条件应当在温度 5°C~ 35°C, 45 ~ 85% RH 和 860 ~ 860 mbar。出现任何疑问再判断, 测试应在 20±2°C, 65±5% RH 和 860 ~ 1060 mbar

2. RATED VOLTAGE AND CURRENT

额定电压和电流

DC 30V 0.1A(with resistance and inductance)

直流 30 v 0.1A(电阻和电感)

3. ELECTRIC PERFORMANCE

电气性能

	PROPERTY 性能	TEST CONDITIONS 试验条件	PERFORMANCE 要求
3.1	Contact Resistance 接触电阻	Measured at 1KHz ± 200Hz (max 20mV, max 50mA) or at DC 5V 1A 在 1 khz±200Hz(max 20 mV,max50 mA) 或在直流5V 1A 测试	*100mΩ max.

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3.2	Insulation Resistance 绝缘电阻	DC 500V is applied between terminals and between terminals and earth for 1minute ±5 seconds. 工作两端子间加直流500 V 1分钟±5秒。		*100MΩ min.
3.3	Withstand Voltage 耐压	AC 500V (50-60Hz) is applied between terminals and between terminals and earth for 1minute. 工作两端子间加交流500 V(50-60Hz) 1分钟		No insulation defect shall be observed. 没有绝缘缺陷 无击穿、无飞弧

4.MECHANICAL PERFORMANCE

机械性能

	PROPERTY 性能	TEST CONDITIONS 试验条件	PERFORMANCE 要求
4.1	Operating Force 按力	A static load shall be applied to the tip of actuator in operating direction. 垂直于操作方向放置, 在开关驱动件顶端中心逐渐施力, 测量开关导通所需的最大力度。	*As per individual manufactured drawing. 按图纸要求
4.2	Terminal Strength 端子强度	A static force of 500gf is applied in one direction to the tip of the terminal for 1minute.(once per terminal) 一个静态力500gf是应用于动作方向的端子1分钟。每个端子(一次)	*Shall be free falling off or breakage of terminal and breakage of substrate as well. 自由下落或极限破损和底部破损 *Bent terminal may be Acceptable. 弯曲的端子可能可以接受的。 *The electrical performance requirement specified in item 3 shall be met. 电气性能需求指定的3项应得到满足。
4.3	Lever Strength 手柄强度	*A static force of 1Kgf shall be applied to the direction of operation for 15sec. 1公斤力的静力作用方向操作,持续15秒。 *A static force of 0.5Kgf shall be applied in the direction of pulling for 15sec. (for free state) 用0.5公斤的力向外拉手柄,持续15秒。(自由状态) *A static force of 1Kgf shall be applied to the vertical direction of operation at the tip of the lever for 15sec. 1公斤力的静力作用于垂直动作方向的手柄的顶端,持续15秒。	*Shall be free from pronounced wobble,bending and other Mechanical abnormalities. 应无明显摆动、弯曲等机械异常。

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4.4	Lever Deviation 手柄偏差	A static load of 100gf is vertically applied to the tip of the operating part. 静载荷100 gf的垂直应用操作部分。											
4.5	Solderability 可焊性	The test is conducted under the following condition. Soldering Temperature : 260±5℃ Dipping Time : 3±0.5 sec 在下列条件下进行测试。 焊接温度:260±5℃ 浸渍时间:3±0.5秒		*Over 90% of the immersed part shall be covered with solder. 超过90%的部分应是满焊。									
4.6	Soldering Heat Resistance 耐热焊接	The test is conducted under the following condition. 在下列条件下进行测试。 Temperature and dipping time 温度和浸渍时间		*Shall be free from a remarkable change in Appearance. 外观有明显的变化 *The electrical performance requirement specified in item 3 shall be met. 电气性能需求指定的3项得到满足。									
			<table border="1"> <thead> <tr> <th></th> <th>Temperature (°C)</th> <th>Time (sec)</th> </tr> </thead> <tbody> <tr> <td>Dip Soldering</td> <td>260±5</td> <td>5±1</td> </tr> <tr> <td>Manual Soldering</td> <td>350±10</td> <td>3</td> </tr> </tbody> </table>		Temperature (°C)	Time (sec)	Dip Soldering	260±5	5±1	Manual Soldering	350±10	3	
	Temperature (°C)	Time (sec)											
Dip Soldering	260±5	5±1											
Manual Soldering	350±10	3											

5. DURABILITY

	PROPERTY 性能	TEST CONDITIONS 试验条件	PERFORMANCE 要求
5.1	Mechanical Operation 机械寿命	10,000cycles operation at the rate of 15~30cycles/minute without load shall be done. 操作的速度为15 ~ 30次/分钟没有加载为10000次。	*Contact Resistance :500mΩ max. 接触电阻: 500mΩ max. *Insulation Resistance :10MΩ min. 绝缘电阻: 10MΩ min. *Dielectric Strength : No dielectric breakdown shall take place when AC 500V is applied for 1 minute. 绝缘强度:作用于交流500 v 、1分钟介质不击穿。
5.2	Mechanical Operation with electrical load 负载寿命	10,000cycles operation at the rate of 15~30cycles/minute with load DC 30V 0.1A操作的速度 15 ~ 30周期与负载直流30 v 0.1 / 分钟为10000次	*Operating Force : within ±10% of the initial Value. 操作力在最初的±10%变化值内。 *No abnormality shall be recognized in appearance and Structure. 外观和结构不得有异常。

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6. WEATHER PROOF

环境试验

	PROPERTY 性能	TEST CONDITIONS 试验条件	PERFORMANCE 要求
6.1	Cold Heat Proof 冷热试验	After testing at $-30\pm 2^{\circ}\text{C}$ for 96hrs, the sample is allowed to stand under normal temperature and humidity conditions for 1 hour and measurement is performed within 1 hour after that. Water drops should be wiped off. 在 $-30\pm 2^{\circ}\text{C}$ 96小时测试后,样品允许放在正常温度和湿度条件为1小时后再测量。 应该擦去产品的水滴。	*Contact Resistance : 500m Ω max. 接触电阻: 500m Ω max *Insulation Resistance : 10M Ω min. 绝缘电阻: 10M Ω min. *Dielectric strength : No dielectric breakdown shall take place, when AC 500V is applied for 1 minute. 绝缘强度: 作用于交流 500 v 、1分钟介质不击穿。
6.2	Dry Heat Proof 干热试验	After testing at $85\pm 2^{\circ}\text{C}$ for 96hrs, the sample is allowed to stand under normal temperature for 1 hour and measurement is performed within 1 hour after that. 在 $85\pm 2^{\circ}\text{C}$ 96小时测试后,样品允许在正常温度1小时再测量。	*Operating force : Within $\pm 10\%$ of the initial Value. 操作力在最初的 $\pm 10\%$ 变化值内。
6.3	Damp Heat Proof 潮湿的耐热的试验	After testing at $60\pm 2^{\circ}\text{C}$ and 90~95% in relative humidity for 96hrs, the sample is allowed to stand under normal temperature and humidity conditions for 1 hour, and measurement is performed within 1 hour after that. Water drops should be wiped off. 测试后 $60\pm 2^{\circ}\text{C}$,相对90 ~ 95%湿度为96小时,样品是允许存在的在正常的温度和湿度条件为1小时再测量 应该擦去产品的水滴	*No abnormality shall be recognized in Appearance 外观和结构不得有异常。

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7. AUTOMATIC SOLDERING CONDITIONS

自动焊接条件

7.1 Preheat ----- 100°C max, 45 (sec)

预热 : 100°C max, 45 (sec)

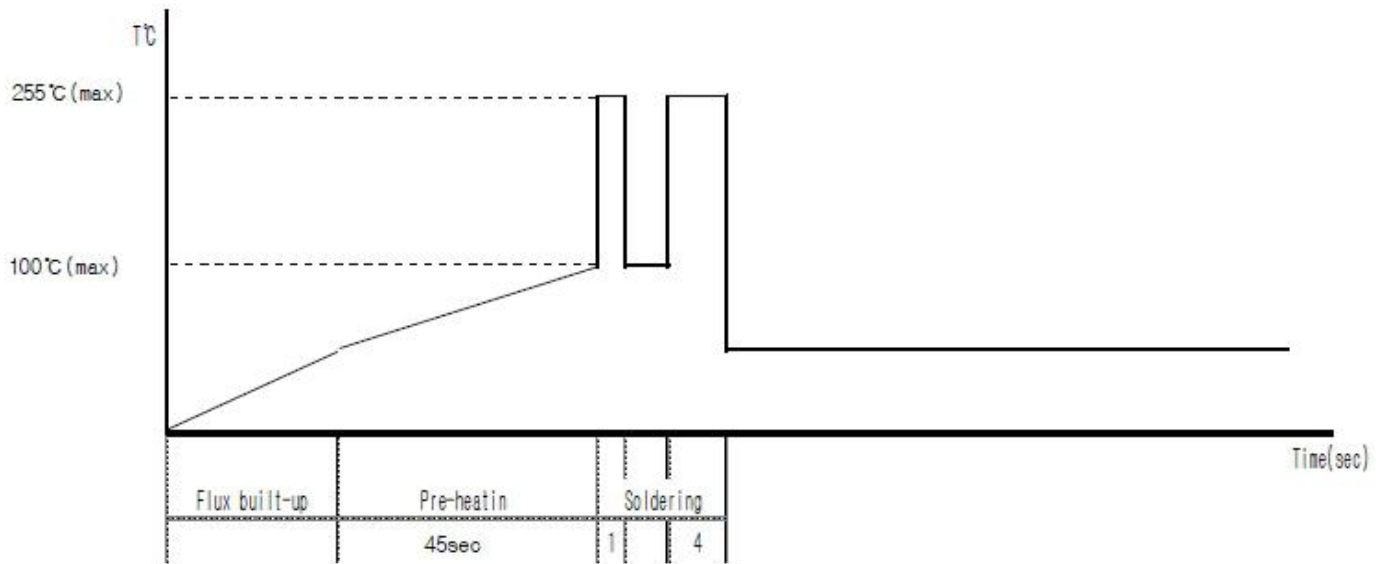
7.2 Peak temperature ----- 255°C max

峰值温度 : 255°C max

7.3 Soldering area temperature ----- 255°C max, 1 ~ 4 (sec)

焊接区温度 : 255°C max, 1 ~ 4 (sec)

Except for the edge, the coating should cover a minimum 90%



< Temperature profile >

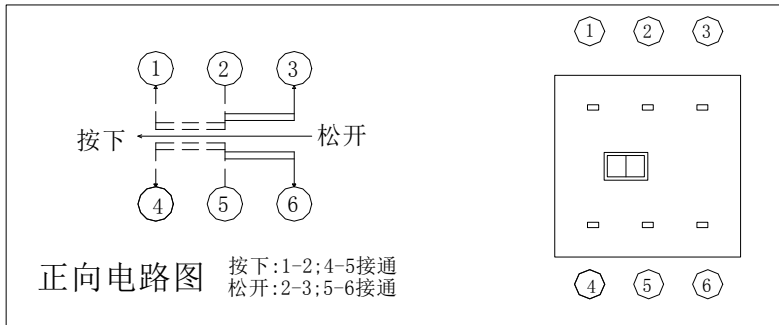
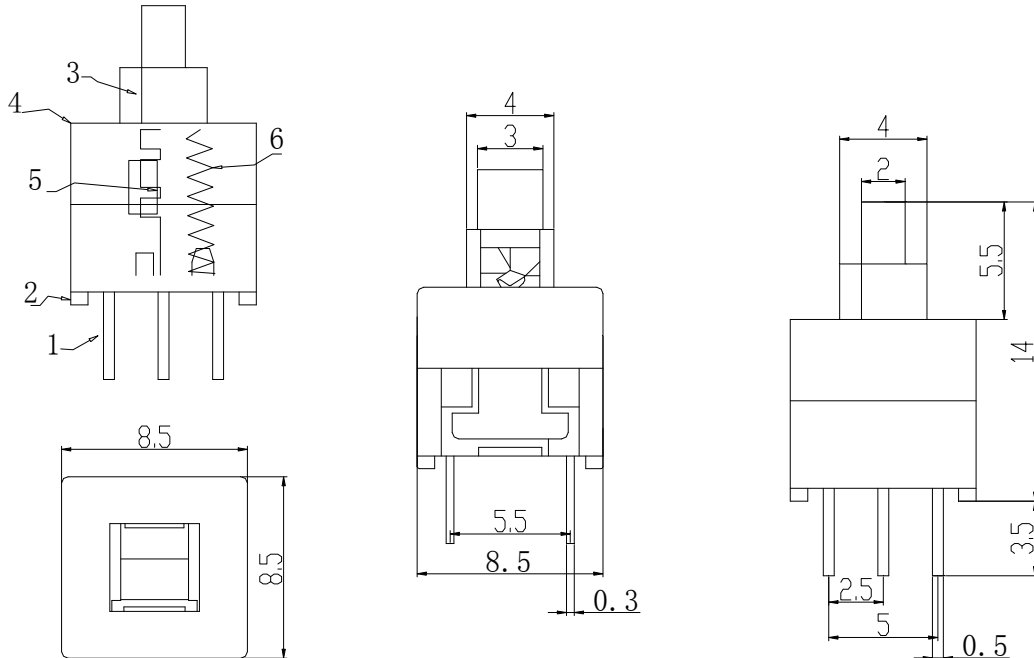
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未注公差: 1mm 以下±0.1mm; 1.5mm 以上±0.3

序号	部件名称	材料名称	牌号及规格	材料数量	电镀规格	备注
1	针脚	高精铜	H65	2排(6个)	镀银	特殊要求另注明
2	底座	增强尼龙	PA66/PPA	1	黑色/其它	特殊要求另注明
3	手柄	甲醛塑料	PA66	1	蓝色/其它	特殊要求另注明
4	盖子	聚碳	PA66/POM	1	深灰色/其它	特殊要求另注明
5	簧片	复合银铜	F.Ag/C5210	1对(2只)	本色	
6	弹簧	碳素钢丝	60#/70#钢丝	1	本色	

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