



东莞市和胜电子有限公司

Dongguan city he sheng Electronics Co., Ltd.

承 认 书

SPECIFICATION FOR APPROVAL

客 户Customer:

产 品 名 称Project:

按键开关

规格型号Part No:

HS89-213-P34

贵公司承认印 Approval signatures

料 号/Part No.	签 章/Signatures

Send us a copy of reference, thank you!

日期 Date:

批准/Approved: 洪胜文

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规格书

东莞市和胜电子有限公司 Dongguan city he sheng Electronics Co., Ltd.	文件编号 FILE NO.	Q/HS -JX-001-2020
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规格书 SPECIFICATTION	第 A 版 VERSION NO.A	第 1 页 共 6 页 Page one of five
产品系列 SERIES	按钮开关 PUSH SWITCH	产品型号 HS89-213-P34
1. 温度范围:		
Temperature range:		
1.1 保存的温度范围: -15℃ 至 60℃		
Storage Temperature range -15℃ 至 60℃		
1.2 使用的温度范围: -25℃ 至 70℃		
Temperature range for use -25℃ 至 70℃		
2. 测试环境条件:		
Test circurnstance condition:		
环境温度: 20℃		
Ambient tempenature 20℃		
相对湿度: 63%-74%		
Relative humidity 63%-74%		
空气压力: 102 千帕		
Air pressure 102KPa		
3. 外观、结构和尺寸:		
Appearance、Structure and Dimension:		
3.1 外观:		
Appearance:		
没有生锈,裂痕、电镀不良, 破裂, 剥离现象。动作正常, 换位清晰。		
Functionally free from rust,crack and bad plationg.		
3.2 结构和尺寸:		
Structure and Dimension:		
参照有关外形图		
Reference per attached outline drawing		
4. 额定值: DC 30V 2A		
Rating: DC 30V 2A		
第 1 页		

规格书

5. 机械性能:		
Mechanical performance:		
项目 Item	试验条件 Test conditions	规格 Requirements
5.1 按力 Press force	<p>开关垂直于操作方向放置，在驱动件顶端中心逐渐施力，测量开关导通所需的最大力度。</p> <p>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 for the knob to come to a stop shall be measured.</p>	<p>500gf±150gf</p> <p>Or</p> <p>500gf±150gf</p>
5.2 行程 Travel	<p>开关垂直于操作方向放置，以一个等于 2 倍按力的静负荷施加于驱动件顶端中心，测量顶端的移动距离。</p> <p>Placing the switch such that the direction of switch operation is vertical and then applying a static load twice the operating force to the center of the knob,the travel distance for the knob to come to a stop shall be measured.</p>	<p>max 1.3±0.2mm</p>
5.3 回弹力 Return force	<p>开关垂直于操作方向放置，驱动件顶端中心下降至全行程后，测量顶端向自由位置返回的力度。</p> <p>The sample switch is installed such that the direction of switch operation is vertical,and upon depression of knob in its center the whole travel distance, the force of the knob to return to its free position shall be measured.</p>	<p>3±0.6N</p> <p>or 3±0.6N</p>

规格书

项目 Item	试验条件 Test conditions	规格 Requirements
5.4	<p>驱动件强度 Actuator Strength</p> <p>在驱动件顶端面中央，施加 10 牛顿的力于按压方向的停止位上 5 秒。 To the press direction 10N until the stop for 5 sec.</p>	<p>满足 5.1、6.1-6.3 项要求且操作元件不被损坏或太松。</p> <p>Item 5.1、6.1 to 6.3 shall be satisfied. Without damage of actuator. Function and action is in gear.</p>
5. 机械性能:		
Mechanical performance:		
5.5	<p>接线端强度 Connection Port Strength</p> <p>接线端任意方向施加 5 牛顿的力，持续时间：10±1 秒。 To any the connection place pull 5N, 10±1 sec.</p>	<p>接线端无损伤，脱落；功能动作正常 Without damage of connection Port function and action is in gear.</p>
5.6	<p>可焊性 Solder-Ability</p> <p>蒸汽老化 1 小时后。端子的焊接部分浸入温度为 235±5℃ 熔融的焊锡内 2±0.5 秒。 An hour later, the steam ageing. The soldering area of the terminal shall be immersed into molten solder at a temperature of 235±5℃ for 2±0.5 sec.</p>	<p>大于浸入部分的 90% 被焊锡覆盖。 More than 90% of the dipping part shall be covered by solder.</p>

规格书

项目 Item		试验条件 Test conditions		规格 Requirements
5.7	耐焊接热 Soldering heat resistance	端子的焊接部分浸入温度为 $240\pm 5^{\circ}\text{C}$ 熔融的焊锡内 2 秒。 The soldering area of the terminal shall be immersed into molten solder at a temperature of $240\pm 5^{\circ}\text{C}$ for 2 sec.		1) 不能出现变形 There shall not be deforming in appearance 2) 满足 5.1,6.1 to 6.3 项要求 The requirements specified in Item 5.1,6.1 to 6.3 shall be satisfied.
6. 电气性能: Electrical performance:				
6.1	接触电阻 Contact Resistance	电压: DC 5V 电流: $60\pm 2\text{mA}$ Rating:DC 5V Current: $60\pm 2\text{mA}$		60 毫欧以下 60mΩ or less
6.2	绝缘电阻 Insulation resistance	DC 500V. 1 分钟后进行测量 A voltage of 100V. DC shall be applied for 1 min after which measurement shall be made.	端子相互间 Between terminals	100 兆欧以上 100 MΩ or more
6.3	耐压 Withstand Voltage	500V.AC/50HZ 1 分钟 500V.AC/50Hz for 1 min.	端子相互间 Between terminals	应无电弧及击穿现象。 漏电流 $<0.5\text{mA}$. No arcing or break down shall occur. Trip current $<0.5\text{mA}$.
			每一端子和外壳间 Between individual terminal and frame	
第四页				

规格书

项目 Item		试验条件 Test conditions	规格 Requirements
6.4	振 动 Librate	<p>振频 10-500HZ 振幅位移幅值：0.35mm；加速度幅值：50m/s²,每次扫描时间：11 分钟。共进行 5 次循环。</p> <p>Librate frequency:10-500Hz Swing:Extent cost displacement should be 0.35mm; The accelerated extent cost should be 50m/s². The scan time:11 minutes once a time. Do it for five times.</p>	<p>应满足 6.1 项，外观无明显异常，功能动作应正常</p> <p>Item 6.1 shall be satisfied, the facade of the switch have no abnormality, motion and function is good.</p>
7. 耐候性 Weatherality			
7.1	高 温 Dry heat proof	<p>储放在 70±2℃的温箱中 72 小时后，在标准大气环境中放置 1 小时，然后在 1 小时之内测量。</p> <p>Switch for test shall be stored at a temperature of 70±2℃ for 72 hours,and at standard atmospheric Conditions for 1 hour then to be measured within an hour.</p>	<p>满足第 3.1,5.1,6.1 至 6.3 中的要求</p> <p>The Item 3.1,5.1,6.1 to 6.3 shall be satisfied.</p>
7.2	低 温 Cold Proof	<p>储放在-25±3℃的温箱中 16 小时后，在标准大气环境中放置 1 小时，然后在 1 小时之内测量。</p> <p>Switch for test shall be stored at a temperature of -25±3℃ for 16 hours,and at standard atmospheric Conditions for 1 hour then to be measured within an hour.</p>	
第五页			

项目 Item		试验条件 Test conditions		规格 Requirements
7.3	恒定湿热 Invaria-Blenes Damp Heat	放置在温度为 40±2℃，相对湿度为 90-95%的环境中 96 小时，然后再放在标准大气环境中 1 小时，在此后 1 小时内进行测量。 Switch for test shall be stored at a temperature 40±2℃, and a relative humidity of 90-95% for 96 hours, Then the switch shall be maintained at standard atmospheric conditions for an hour after which measuremet shall be made within 96 hour.	接触电阻, 参照 6.1 Contact resistance.Refer to Item 6.1	60 毫欧以下 60mΩ or less
			绝缘电阻, 参照 6.2 Insulation resistance. Refer to Item 6.2	100 兆欧以上 100MΩ or more
			耐电压, 参照 6.3 Withstand voltage.Refer to Item 6.3	应无闪弧及击穿现象 No arcing or break down shall occur.
			操作力和外观 Operating force and appearance	满足第 5.1 中的要求, 塑件没有出现变形或裂纹, 没有出现严重变色及生锈。 Item 5.1 shall be satisfied, there shall be no deformation or cracks in molded part of excessive rust and discoloration.
8. 耐久性能 Durability				
8.1	寿命实验 Life Test	30,000 cycles of a knob operation shall be performed continuously at a rate of 45 cycles/sec. 操作元件以每分钟 45 次的速度连续完成 30, 000 次动作。	按力. 参照 5.1 Press force. Refer to Item 5.1	初始力度值±30% ±30% of initial force
			接触电阻. 参照 6.1 Contact resistance. Refer to Item 6.1	100 毫欧以下 100mΩ or less
			绝缘电阻.参照 6.2 Insulation resistance.Refer to Item 6.2	100 兆欧以上 100MΩ or more
			耐电压. 参照 6.3 Withstand voltage.Refer to Item 6.3	应无闪弧及击穿现象 No arcing or break down shall occur.

规格书

