



东莞市铭标电子科技有限公司

MINGBIAO ELECTRONICS CO., LTD

承 认 书

APPROVE SHEET

客户名称 Customer: _____

品 名 Part name: Limit switch

型 号 Part Number: LM-V-511

Design/Date	Check/Date	Review/Date	Approval/Date

贵公司承认印 Approval signatures

Approval/Date	Remark

Send us a copy of reference , thank you! 日期 Date:

地址: 广东省东莞市长安镇沙头社区猫山东路 101 号

Add: Dongguan City, Guangdong Province, Chang'an Town, Sand head community The cat shandong road, No. 101

Ntel: 0769-81581583

产品规格书 (1/3页)

一、使用环境条件 Environmental Condition of utilization:

温度 Temperature: $-10^{\circ}\text{C} \sim +60^{\circ}\text{C}$

相对湿度 Relative humidity: $\leq 95\%$

额定电压 Rated Voltage: 16V (DC)

额定电流 Rated Current: 0.5A

二、规格 Specifications:

序号 Order	项目 Item	试验条件 Experimental Condition	要求 Requirement
1	外观 Outward Appearance	目测 Visual Measurement	金属表面应清洁、无锈蚀和镀层起脱现象, 塑料壳应无飞边、裂纹、损伤、凹凸不平。 Metal surface should be smooth and not be corroded by rust. Plating should not crease or peel off. Plastic casing should not be uneven, crude or have any cracks or damage.
2	尺寸 Dimensions	开关安装尺寸、配合尺寸按本产品图纸及零部件图要求(附图纸) Socket installation size, coordination size should be in accordance with the requirements of the drawings of this product (Attached drawing)	符合图纸尺寸以及公差要求。 According to the size of the drawing and folerance
3	耐电压 Voltage Resistance	常态: 50HZ AC 250V 1分钟 Normally: 50HZ AC 250V 1min	各导电部份之间的绝缘, 应能承受试验电压的作用而无击穿。 The insulation of different parts conducting electricity should bear the function of experiment voltage and there are no punctures on it.
4	绝缘电阻 Insulation Resistance	试验电压: DC 250V Experimeht Voltage: DC 250V	常态: $\geq 50\text{M}\Omega$ Normally: $\geq 50\text{M}\Omega$

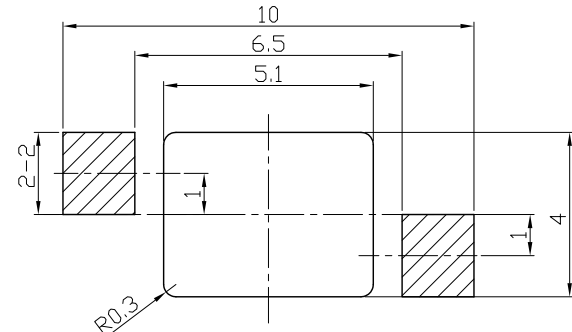
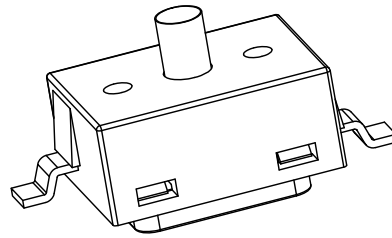
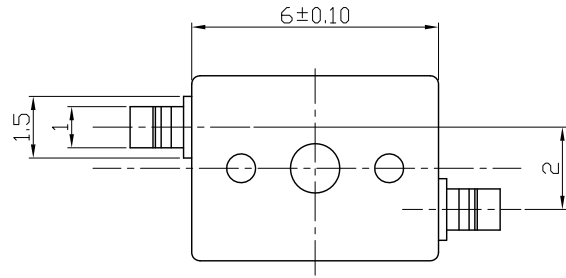
产品规格书 (2/3页)

序号 Order	项目 Item	试验条件 Experimental Condition	要求 Requirement
5	接触电阻 Contact Resistance	1KHz \pm 5%, 1V, 10mA. 1KHz \pm 5%, 1V, 10mA.	200m Ω 以下 200m Ω MAX
6	动作力 Insertion and Pulling out Forces	用标准头, 沿按钮动作方向进行测量. The force is measured when the inserting or pulling out is done in the direction of the aperture axis with a standard plug	根据使用要求制作, 动作力范围在: 20g \pm 5g Operating Force 20g \pm 5g
7	耐高温试验 Heat test	在 (85 \pm 2) $^{\circ}$ C 环境中放置48小时, 再放在正常环境中60分钟后进行测试。 Putting at (85 \pm 2) $^{\circ}$ C for 48 hours. Test after keeping in normal condition for 60 minutes.	1、接触电阻500m Ω 以下 Contact resistance 500m Ω MAX. 2、绝缘电阻20兆欧以上 Insulation resistance 20M Ω MIN.
8	耐低温试验 Anti-low temperature test	在 (-25 \pm 2) $^{\circ}$ C 的环境中放置16小时, 再放在正常环境中60分钟后进行测试。 Putting at (-25 \pm 2) $^{\circ}$ C for 16 hours. Test after keeping in normal condition for 60 minutes.	3、耐电压 250V, 0.5mA 1分钟无击穿 Withstand voltage 250V, 0.5mA no breakdown. 4、无任何迹象显示机械及电气性能损坏 No sign of damage mechanical and electronic performance.
9	耐湿试验 Anti-humid test	在温度为 (40 \pm 2) $^{\circ}$ C, 相对湿度为90%~95%RH的环境中放置48小时, 再放在正常环境中60分钟后进行测试。 Putting at (40 \pm 2) $^{\circ}$ C, 90%~95%RH for 48 hours. Test after keeping in normal condition for 60 minutes.	5. 动作力: 规格值的+10%~-30%以内变化 Operating force: within +10%~-30% of specifications

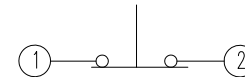
产品规格书 (3/3页)

序号 Order	项目 Item	试验条件 Experimental Condition	要求 Requirement
10	可焊性 Solder- Ability	将端子浸入熔融的锡槽内，温度为(230±5)℃，时间为(3±0.5)秒。 Immerse the terminal to the molten solder tank, temperature reach to (230±5)℃, time reach to (3±0.5) seconds	浸入的部分90%以上表面被锡覆盖 90% of the surface will be covered by solder.
11	耐焊接热 Soldering resistance test	端子的焊接部分浸入温度为(245±3)℃熔融的锡炉内(3±0.5)秒。 The welding part of terminal immerse molten solder at a temperature of (245±3)℃ for (3±0.5) seconds. 手工烙铁焊接：焊接温度(350±5)℃，焊接时间(2±0.5)秒。焊接时在端子上不能施加异常压力。 Manual iron welding: welding temperature: (350±5)℃, welding time: (2±0.5) seconds. When welding, can't enforce anomaly pressure on the terminal.	本体无变形，能满足于机械、电气性能 Without deformation of base, can satisfy mechanical, electronic performance.
12	机械寿命 Mechanical life	每分钟50~60次的速度连续工作20000次 Operating 20000 cycles at a rate of 50~60 cycles per minute	1、动作无卡死现象，按钮表面允许有磨损 Action without blocking phenomenon, button allows the wear surface 2、接触电阻 ≤1Ω Contact Resistance ≤1Ω 3、动作力：规格值的+10%~-30% 以内变化 Operating force: within +10%~-30% of specifications
13	贮存 Storage	包装成箱未开封的产品，应在环境温度(-10~+40)℃，相对湿度在80%以下，周围空气中无酸性，碱性和其它腐蚀气体的仓库里贮存 The environment temperature of products packed in an unopened box is (-10~+40)℃. Its relative humidity is below 80%. Keep in a warehouse without acid, alkaline and corrosive air around it.	贮存期自生产日期起半年，产品各项性能无异常 From the date of production, storage period of six months, the product performance is normal

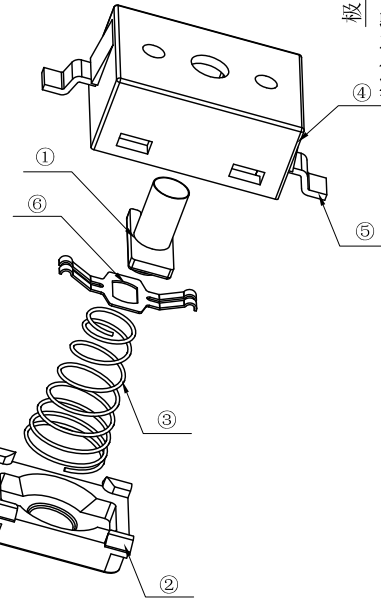
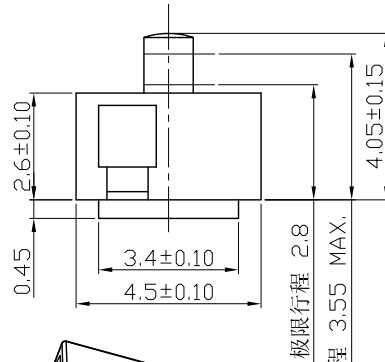
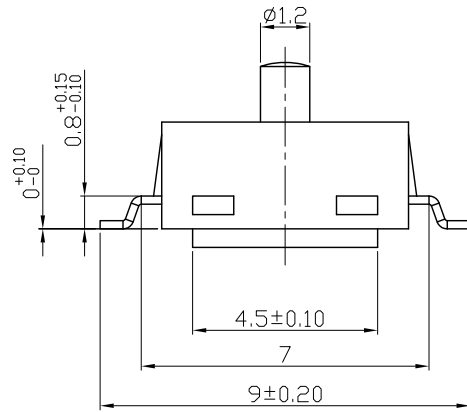
版本	变更内容	签名	日期
A1	更新图框、标注	王远杰	2021-09-17



Recommended PAD Layout ± 0.05
TOP VIEW



CIRCUIT DIAGRAM



技术要求

- 1、额定电压 :16V (DC)
额定电流 :0.5A
- 2、开关绝缘电阻: $\geq 50M\Omega$.
- 3、开关接触电阻: $\leq 200m\Omega$.
- 4、开关动作力 : $20g \pm 5g$
- 5、开关的寿命要求 ≥ 20000 次循环。
- 6、未注尺寸公差按GB/T1804-m级精度要求。

⑥	弹片	1	复银铜	镀银	
⑤	焊脚	1	黄铜	镀银	
④	基座	1	LCP	黑色	
③	弹簧	1	钢丝		
②	盖子	1	PA46	黑色	
①	按柄	1	PA46	黑色	
序号	零件名称	数量	材质、规格	颜色\镀层	备注



东莞市铭标电子科技有限公司
Ming Mark Electronic Technology Co., Ltd.

RoHS

设计	王远杰	<h1>限位开关</h1> <h2>LM-V-511</h2>			
日期					
审核					
日期					
批准					
日期		版本:A1	单位:mm	比例:1:1	