

APPROVAL SPECIFICATIONS

Title. DETECTION SWITCH

Product Model. KAM4736K-4L0375-29LH

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: _____

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1、概述 GENERAL

1.1 适用范围 APPLICATION

此规格书适用于检测开关的相关要求

This specification applies to the requirements of the test switch

1.2 工作温度范围 Operating Temperature Range

-20℃~70℃(在标准大气压、标准湿度条件下)

-20℃~70℃(Normal humidity, normal air pressure)

1.3 贮藏温度范围 Storage Temperature Range

-30℃~80℃(在标准大气压、标准湿度条件下)

-30℃~80℃(Normal humidity, normal air pressure)

1.4 测试条件 Test Conditions

在没有其它特定的条件下，应该在以下的条件下进行测试和测量：

Unless otherwise specified, tests and measurement shall be made in the following standard conditions:

常温.....5℃~35℃

Normal temperature.....5℃~35℃

标准湿度.....相对湿度 25%~85%

Normal humidity.....relative humidity 25%~85%

标准大气压.....86Kpa~106Kpa

Normal air pressure.....86Kpa~106Kpa

在制造过程中，测试和测量应该在以下的条件下进行：

If any doubt arise from the judgment, tests shall be conducted at the following conditions:

温度.....20℃±2℃

Temperature.....20℃±2℃

相对湿度.....65%±5%

Relative humidity.....65%±5%

环境气压.....86Kpa~106Kpa

Air pressure.....86Kpa~106Kpa

1.5 存储方法 Storage method

1. 使用前确保包装完整无破损，无浸湿。

Ensure that the product without package breaking or wetting before use.

2. 存储条件 Storage conditions:

储存温度 Storage temperature: -5 ~ 35 ℃;

储存湿度 Storage humidity: 25% ~80%;

未开封状态：6个月内使用完毕（从发货日开始计算）；超过6个月后再使用的，使用前请先验证：端脚无氧化、无发黑、塑料件无吸湿起泡，确保焊接的适宜性；

Unopened status: Use up the product as soon as possible before six months. (calculated from shipment date). Over 6 months, please make sure below ;

before use it: terminal without oxidation or blackening, plastic parts without moisture absorption or bubble, ensure solderability.

已开封状态：1个月内使用完毕；

Opened status: use up within 1 month;

储存注意事项：避开高湿高温和有腐蚀性气体的环境及阳光直射；

Storage precautions: Please avoid the following environment: with high humidity, high temperature , corrosive gases and direct sunlight.

3. 请勿超重叠放。

Do not stack too many switches.



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2、 详细说明

Detailed specification

2.1 外观：应无影响、降低产品性能的缺陷；

Appearance: There should be no defects that affect the serviceability of product.

2.2 结构尺寸和安装尺寸：应符合装配图要求；

Style and dimension: shall conform to the assemble drawings.

2.3 操作形式：有触觉反应的操作

Type of actuating: Detectionile feedback.

2.4 开关工作额定值：DC 12V 0.1A

Ratings: DC 12V 0.1A

3. 电气性能：

ELECTRICAL SPECIFICATION

项 目 ITEM	试 验 条 件 TEST CONDITIONS	要 求 REQUIREMENTS
3.1 接触电阻 Contact Resistance	在 AC 1KHz 20mV 或 DC-12V, 0.1A 电流测量 Being measured at 1kHz small current Contact Resistance mete.DC-12V,0.1A 或 AC1KHz 20mV.	$\leq 150m\Omega$
3.2 绝缘电阻 Insulation Resistance	在端子之间和端子与壳之间加 DC 100V 条件下，持续 1 分钟测量 Measurements shall be made following Application of DC100Vpotential across Terminals and across terminals and frame For 1minute.	$\geq 100M\Omega$
3.3 介质耐压 Dielectric voltage proof	在端子之间、端子与外壳间施加 100V AC(50Hz 或 60Hz)/min 100V AC (50Hz or 60Hz) shall be applied across terminals、 Between terminals and frame, for one minute.	无击穿、无飞弧 There should be no breakdown and flashover



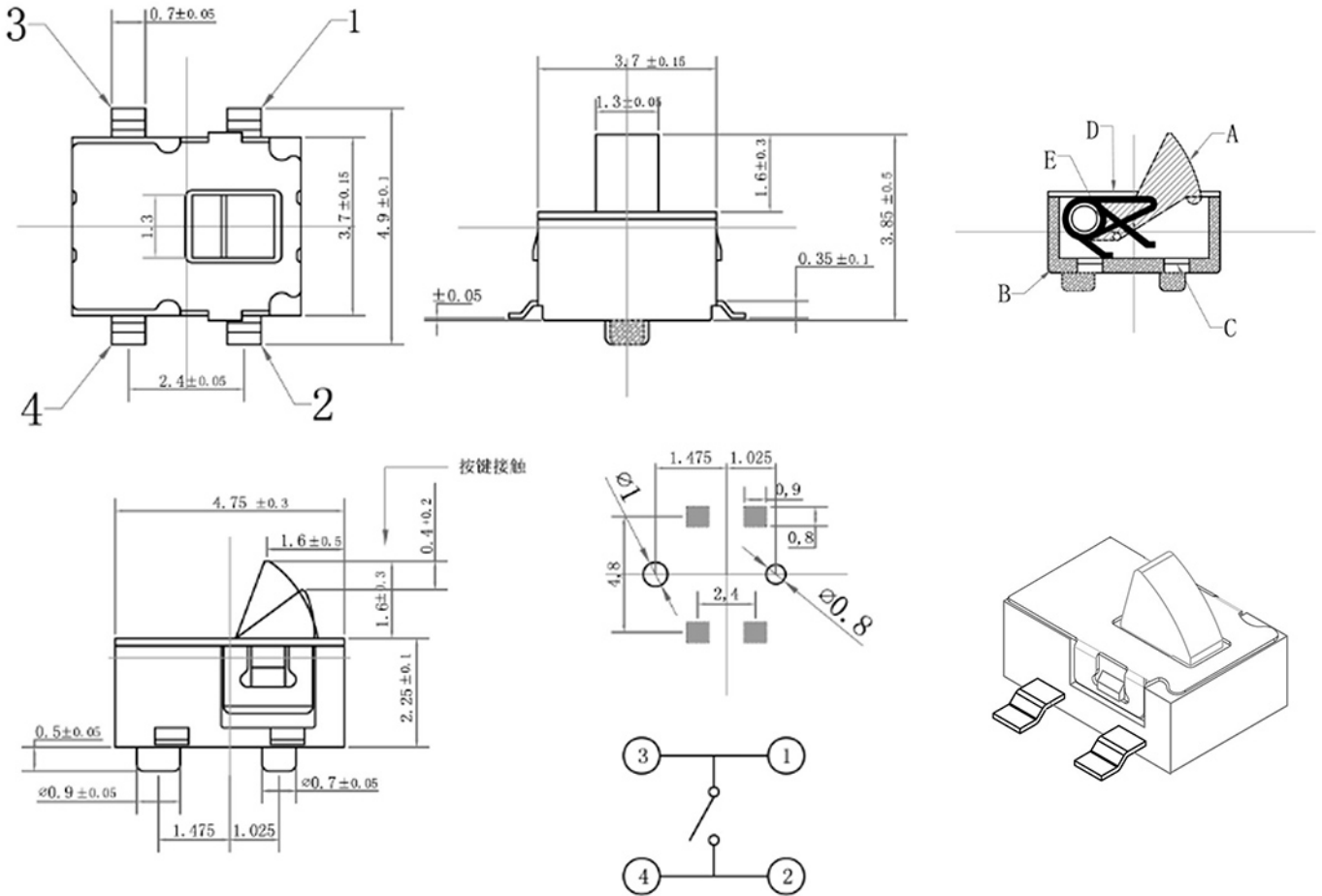
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项目 ITEM	试验条件 TEST CONDITIONS			要求 REQUIREMENTS
4. 机械性能: MECHANICAL SPECIFICATION				
4.1	按力 Operating Force	开关垂直于操作方向放置，在开关驱动件顶端中心逐渐施力，测量开关导通所需的最大力度。 Placing the switch such that the direction of switch operation is vertical and then gradually increasing the load applied to the center of the stem, the maximum load required for the switch to come to a stop shall be measured.		30±20gf
4.2	最大行程 Full Travel	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在开关驱动件顶端中心，测量顶端移动的距离。 Placing the switch such that the direction of switch operation is vertical and then applying static load of 2times operating force to the center of the stem; the travel distance for the switch to come to a stop shall be measured.		0.4±0.2mm
4.3	端子强度 Terminal strength	一个 400 克之静负荷施加于端子顶部的一个方向持续 1 分钟。 A static force of 400gf being applied in one Direction on the tip of the terminal for 1minute.		无论何迹象显示机械及电气性能之损坏 There shall be no sigh of damage mechanically and electrically.
4.4	手柄强度 Lever strength	1 公斤静负荷施加于柄子之一个方向持续 1 分钟。 A static force of 1 Kg being applied in one direction of lever for one min.		柄子无变型，可以正常操作 The deformation shall not be extreme and the lever shall mechanically work normally
4.5	可焊性 Solderability	在以下设定条件下进行测量: Measurements shall be made following the test set forth below: (1) 焊接温度:235±5℃ Solder temperature : 235±5℃ (2) 浸入时间:3s±0.5s Immersion time: 3s±0.5s		除边缘外涂层应均匀覆盖 90%以上 Except for the edge, the coating should cover a minimum 90%



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5、环境耐久性： ENVIRONMENTAL SPECIFICATION				
5.1	耐久特性 (开关寿命) Endurance (switching action)	负载条件下, 每分钟 50~60 次的速度操作 100000 次 Cycles of operation at of 50~60 cycles per minute With unloading : 100000 times.		接触电阻 400mΩ以下 Contact resistance 400mΩ max ITEN 项目 3.2. ITEN 项目 3.3.
5.2	耐热试验 Heat test	在 80±2℃环境中放 96 小时, 再放在正常环境中 30 分钟后进行测试。 80±2℃ for 96 hours, after test keep in normal condition for 30minutes.		(1)接触电阻 150 毫欧以下 Contact resistance 150mΩ max. (2)绝缘电阻 100 兆欧以上。 Insulation resistance 100MΩ min. (3) 无任何迹象显示机械及 电气性能之损坏 There shall be no sign of damage mechanically and electrically.
5.3	耐冷试验 Cold test	在-20±3℃环境中放 96 小时, 再置于正常环境中 30 分钟后进行测试。 At-20±3℃ for 96hours, after test kept in normal condition for 30minutes.		
5.4	耐温试验 Humidity	在 40±2℃ 90-96%RH 中放 48 小时, 再放在正 常环境中 30 分钟后进行测试。 40±2℃ 90-96%RH for 96hrs. After test keep in normal condition for 30minutes.		
5.5	盐雾试验 Salt test	在浓度为 5%、温度为 35℃的氯化钠溶液中浸泡 24 小时后, 进行观察 At 5% NaCl, 35℃. After 24 hours		开关金属件无腐蚀 No rust



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General tolerance: $\pm 0.2\text{mm}$

NO.	NAME	MATERIAL	QTY.	FINISHING
1	Base	LCP	1	Black
2	Terminal	Phosphorus bronze	1	Ag plating
3	Spring	BRASS	1	Ag plating
4	Cover	SUS 301	1	
5	Stem	PA46	1	Black