



东莞市神九实业有限公司

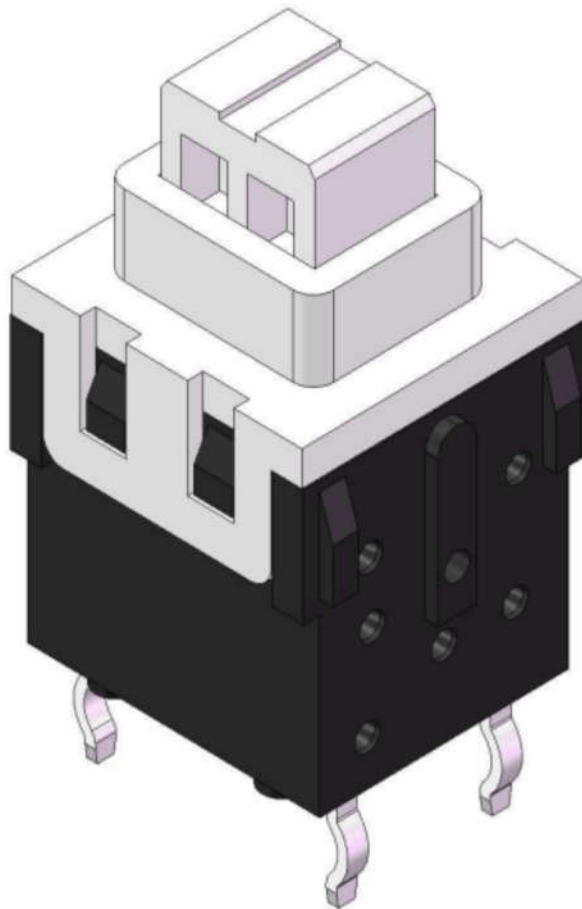
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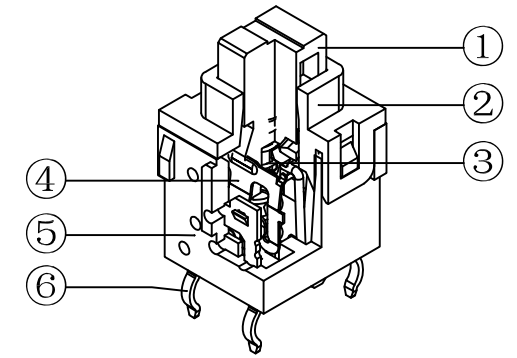
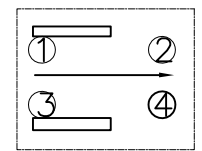
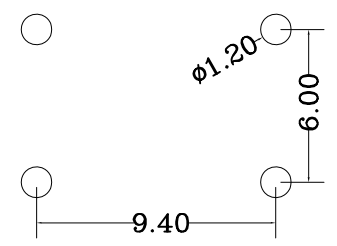
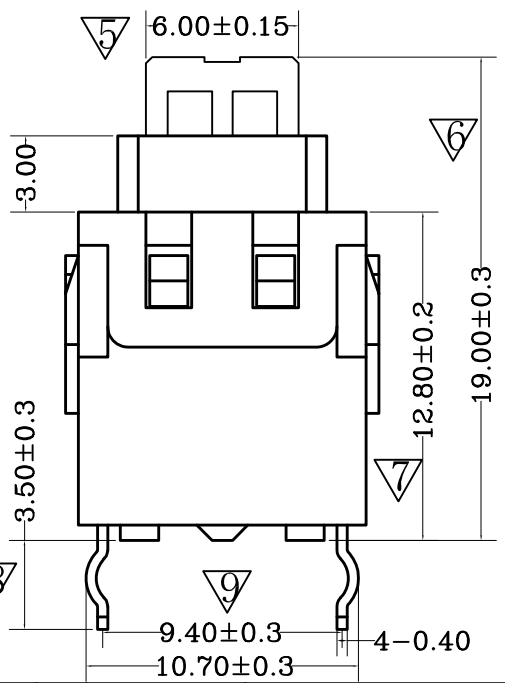
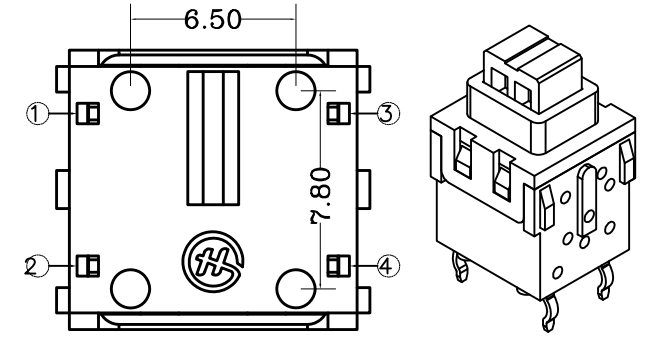
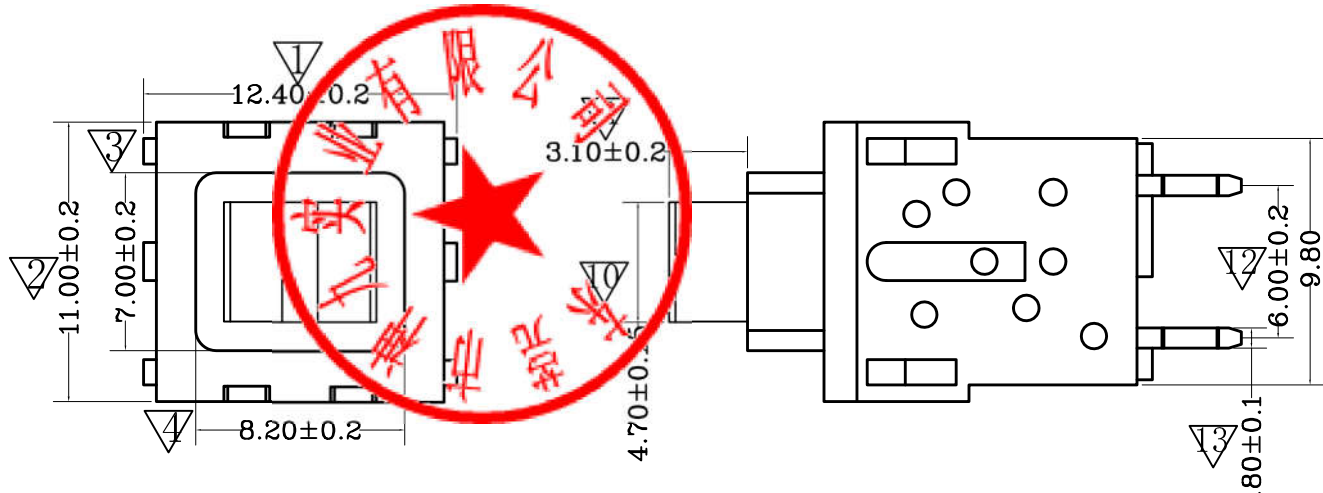
产品规格书

Product Specification



PB-22E33/平头 无锁 4P (料号: KLJ-6161-120)





PCB Layout(Pattern Side)

Circuit Diagram

Specification :

- 1.The current rating: DC30V 0.1 A
- 2.Withstand Voltage: AC500V(50-60Hz) for 1 minute
- 3.Contact Resistance:100mΩ Max
- 4.Insulation Resistance:100MΩ Min (DC500V)
- 5.Operation Force: 400±100gf.
- 6.Total Travel: 3.0mm±0.5mm.
- 7.Woke Style : Non- Lock
- 8.Life Test:100, 000Cycles.
(load life 50, 000 Cycles)

NO.	PART NO.	TER' NO.	QTY.	MATERIAL	REMARK
⑥	Terminal		4	Brass(C2680)	Plating Silver
⑤	Base		1	NYLON(PA66)	BLACK
④	Contact		2	Phosphor Bronze(C5191)	Plating Silver
③	Spring		1	Carbon Steel	material
②	Cover		1	polyformaldehyde(POM)	white
①	Keystoke		1	NYLON(PA66)	white

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ECN NO.	REV	DATE.	DESCRIPTION.	CHANGE	CHECK	APPRO.	TOLERANCES ARE	SCALE	PAGE	mm	PAGE	A4
	AO		NEW						1:1			

ANGLE ±2°
30 - 20 ±0.30
20 - 10 ±0.25
L<=10 ±0.20

CUSTOMER COPY

DRAWN: 2015.04.16
CHECKED: DATE:
APPROVALS: DATE:
DWN.NO: C01P1123D10023403

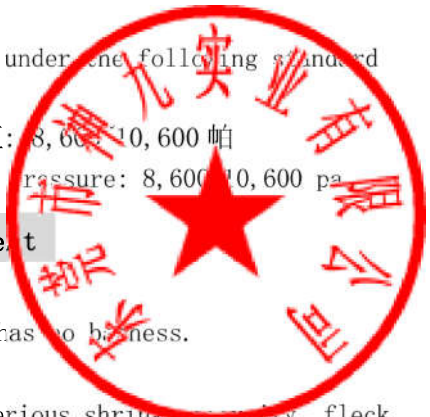
TITLE: 6161 is unlocked 4 foot switch (white guide cover black)
PART NO: 1123D10023403

1. 一般特性 General Characteristics

- 1.1 额定值(Rating Value): DC30V 0.1A(max.) DC 2V 10μA(min.)
- 1.2 工作温度(Work Temperature Range): -10℃ ~ 70℃
- 1.3 存储温度(Store Temperature Range): -20℃ ~ 80℃
- 1.4 正常测试条件(未有特殊说明量测在以下条件进行):

General test condition (Tests and measurements shall be made under the following standard conditions unless otherwise specified):

正常温度: 5℃~35℃ 相对湿度: 45%~85% RH 气压: 8,600~10,600 帕
 Temperature: 5℃~35℃ Relative humidity: 45%~85% Air pressure: 8,600~10,600 pa



2. 产品外观及尺寸要求 Appearance & Dimension Requirement

- 2.1 产品外形结构紧凑, 无配合不良.
The structure of product is compact, and assembly of parts has no business.
- 2.2 产品塑胶部件无缩水. 披锋. 欠注. 斑点. 破损或变形现象.
The plastic parts of product have no defects such as very serious shrink, burr, fleck, disrepair, transmutation, etc.
- 2.3 产品引脚无氧化. 脏污. 变形. 毛刺或电镀不良.
Lead feet have no defects such as oxidation, smudge, disrepair, burr, defects on plating.
- 2.4 开关操作顺畅, 节奏感强, 无明显卡塞现象, (自锁开关锁芯锁住后, 允许导芯倾斜正负 2°)
Operating switch is unhindered, rhythmmed, and there is not palpable clag. (After the keystroke is locked, it is normal that the keystroke tilt to one side plus or minus 2°)
- 2.3 产品结构及尺寸参见产品规格图纸.
Construction and dimensions: Refer to individual product drawing.

3. 电气特性 Electronic Characteristics

No.	项目 Item	测试方法 Test Method	测试设备 Equipment	特性要求 Requirements
3.1	接触阻抗 Contact Resistance	在低电流 (≤100mA) 条件下测试. Measured at low current (100mA or less).	低电阻测试仪 Low Resistance Meter	100mΩ max
3.2	绝缘阻抗 Insulation Resistance	测试相邻引脚之间, 引脚与外壳之间的绝缘阻抗(DC 500V). Measurement shall be made between adjacent terminals, between terminal and shell(DC 500V).	绝缘测试机 Insulation Resistance Tester	100MΩ min
3.3	耐压测试 Dielectric Withstand Voltage	输入一定电压(50-60Hz, 电压值 AC 500V) 1 分钟, 漏电流为 2mA, 测试邻近端子间. Apply certain voltage (50-60Hz, AC 500V) for 1 minute between adjacent contacts of the connector with 2mA leakage sensitivity.	耐压测试机 Puncture Tester	没有绝缘破坏. 电弧等异常. No arcing, breakdown and damaging insulation.

4. 机械特性 Mechanical Characteristics

No.	项 目 Item	测试方法 Test Method	测试设备 Equipment	特性要求 Requirements
4.1	操 作 力 Operation Force	逐渐施力操作开关按键，测量开关到达全部工作行程时所需的最大操作力度。 Operate the keystroke of the switch vertically, and then increase press strength gradually, Measured maximum operation force while the travel of the switch is full.	推拉力计 Push-Pull Force Gauge	See Drawing
4.2	行 程 Full travel	垂直操作开关按键，量测开关顶端最大移动距离。Operate the keystroke of the switch vertically, the travel distance of keystroke moving from its free position to maximum moving distance shall be measurement.	PT 治具 游标卡尺 PT Tester Vernier Caliper	见图面 See Drawing
4.3	静 止 强 度 Static Strength	开关的动作方向为垂直放置开关, 在推柄动作方向施加 3KG 的静负荷, 60 秒时间. Placing the switch such that the direction of switch operation is vertical, a static load of <u>3</u> kgf shall be applied in the direction of stem operation for a period of <u>60</u> seconds.	推拉力计 Push-Pull Force Gauge	无机械的和电气的 损伤迹象 There shall be no sign of damage mechanically and electrically.

5. 可靠性测试 Reliability trial

No.	项 目 Item	测试方法 Test Method	测试设备 Equipment	特性要求 Requirements
5.1	盐雾实验 Salt Mist Test	试件在下述实验后测量： 1. 温度： 35±5°C 2. 盐溶液浓度：5±1%(质量百分比)， 3. 试验时间：24 小时， 4. 试验后，将盐沉积物用水冲掉。 The switch shall be checked after following test: 1. Temperature: 35±5°C 2. Salt solution: 5±1%(Solids by mass) 3. Duration: 24 hours, 4. After immersing, salt deposit shall be removed by running water.	盐雾试验机 Salt Spray Tester	在金属件上没有严重 腐蚀斑点。 No remarkable corrosion shall be recognized in metal parts.



5. 可靠性测试 Reliability trial

No.	项 目 Item	测试方法 Test Method	测试设备 Equipment	特性要求 Requirements
5.2	机械寿命 Operation Life Without Load	<p>开关置于寿命试验机上连续工作，工作频率低于每分钟60次，工作条件为：DC12V 100mA.</p> <p>The switch would be operated continuously by auto machine at maximum rate of 60 cycles per hours on conaition that the voltage is 12V and the current is 100mA.</p>	<p>寿命试验机 Life Tester</p>	<p>寿命：100,000次 实验后： 接触电阻 <u>1000mΩ</u> Max. 绝缘电阻 <u>10MΩ</u> Min. 操作力：<u>在±50%内</u> 开关外观及结构无损坏 Life Test: 100,000 cycles After test: Contact resistance: <u>1000mΩ</u> Max Insulation resistance: <u>10MΩ</u> Min Operating force: Change should be within ±50% of specified value. No abnormalities shall be recognized in appearance and construction.</p>
5.3	耐焊接热 Resistance to Soldering heat	<p>端子焊接部分浸入焊炉，焊炉温度 $260 \pm 5^{\circ}\text{C}$，焊接时间 5 ± 1 秒。（焊接时不可于端子施加外力）。</p> <p>Terminals shall be dipped in the solder bath at $260 \pm 5^{\circ}\text{C}$ for 5 ± 1 seconds without additional force for</p>	<p>控温锡炉 Solder Stove Solder</p>	<p>本体无变形，能满足于机械、电气性能.</p> <p>Appearance should be not damaged, electrical and mechanical characteristics shall be satisfied.</p>

5. 可靠性测试 Reliability trial

No.	项目 Item	测试方法 Test Method	测试设备 Equipment	特性要求 Requirements
5.4	可焊性试验 Solder ability Test	端子顶部被浸入焊锡炉中, 温度为 $230 \pm 5^{\circ}\text{C}$, 时间 5 ± 1 秒。 The top of the terminals shall be dipped in the solder bath at $230 \pm 5^{\circ}\text{C}$ for 5 ± 1 seconds.	控温锡炉 Solder Stove	引脚至少95%上锡。 Ninety-five percent of terminals shall be tinned.
5.5	耐高温测试 Resistance to Heat Test	放置在温度 $80 \pm 2^{\circ}\text{C}$ 环境中 96 小时后, 再置于正常条件下 1 小时后测定。 The switch shall be stored at a temperature of $80 \pm 2^{\circ}\text{C}$ for 96 hours, Measurements shall be made after it be subjected to the standard conditions for 1 hour.	高低温 试验机 High & Low Temperature Tester	外观, 机械及电气性能均符合要求。 Appearance, electrical and mechanical characteristics shall be satisfied. (接触电阻: $200\text{m}\Omega$ Max. 绝缘电阻: $50\text{M}\Omega$ Min Contact resistance: $200\text{m}\Omega$ Max Insulation resistance: $50\text{M}\Omega$ Min
5.6	耐低温测试 Resistance to Cold Test	放置在温度 $-35 \pm 3^{\circ}\text{C}$ 环境中 96 小时后, 再置于正常条件下 1 小时后测定。 The switch shall be stored at a temperature of $-35 \pm 3^{\circ}\text{C}$ for 96 hours, Measurements shall be made after it be subjected to the standard conditions for 1 hour.	高低温 试验机 High & Low Temperature Tester	外观, 机械及电气性能均符合要求。 Appearance, electrical and mechanical characteristics shall be satisfied. (接触电阻: $200\text{m}\Omega$ Max. 绝缘电阻: $50\text{M}\Omega$ Min Contact resistance: $200\text{m}\Omega$ Max Insulation resistance: $50\text{M}\Omega$ Min
5.7	耐湿性测试 Resistance to Humidity Test	放置于温度 $40 \pm 2^{\circ}\text{C}$, 相对湿度为 $90 \sim 96\%$ 环境中 96 小时后, 再置于正常条件下 1 小时后测定(注意要擦去水滴)。 The switch shall be stored at a temperature of $40 \pm 2^{\circ}\text{C}$, relative humidity $90 \sim 96\%$ for 96 hours, Measurements shall be made after it be subjected to the standard conditions for 1 hour (Wipe out water drip).	恒温恒湿箱 Temperature & Humidity Tester Chamber	外观, 机械及电气性能均符合要求。 Appearance, electrical and mechanical characteristics shall be satisfied. (接触电阻: $200\text{m}\Omega$ Max. 绝缘电阻: $50\text{M}\Omega$ Min Contact resistance: $200\text{m}\Omega$ Max Insulation resistance: $50\text{M}\Omega$ Min