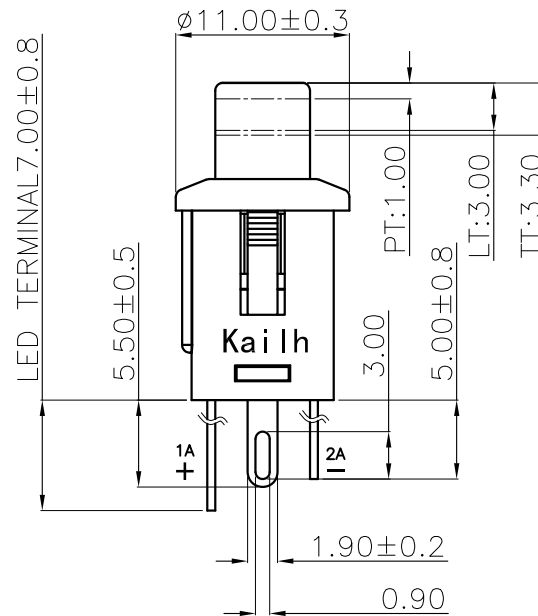
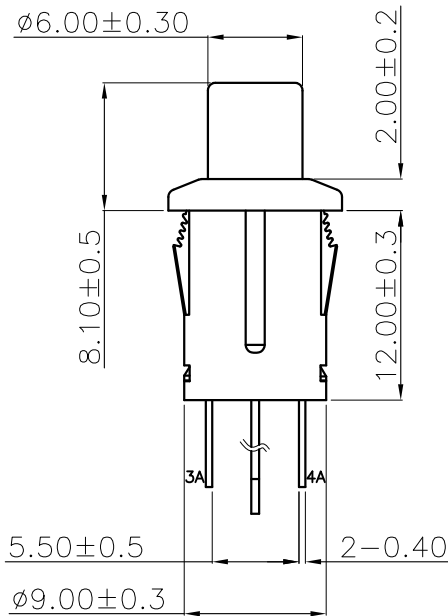
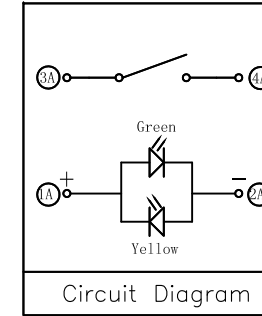
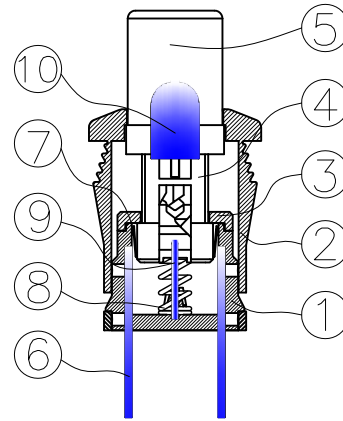
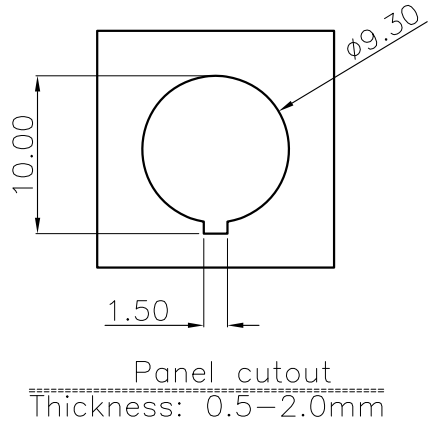


ABIDE BY WEEE & ROHS



Specification :


1. Rating : DC12V 30mA
2. Contact Resistance : 500mΩ Max
3. Insulation Resistance : 100M Ω Min(DC 500V)
4. Withstand Voltage :  
AC500V (50-60Hz) For 1 minute
5. Operation Force : 350±80gf
6. Life Test : 100,000 Cycles
7. Total Travel : 3.30±0.5mm

10	LED	1	Green
9	Spring	1	Stainless Steel Natural
8	Spring	1	Stainless Steel Natural
7	Terminal (2)	1	C17200XHM Natural
6	Terminal (1)	1	H65Y Ag-Plated
5	Head	1	PC Green
4	Cover	1	POM(F20-03) Natural
3	Cover	1	Nylon Black
2	Shell	1	Nylon Black
1	Base	1	Nylon Black

ITEM	PART NAME	TER'NO.	QTY.	MATERIAL	FINISHING	REMARK
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APPROVALS		DATE	 东莞市凯华电子有限公司 KAIHUA ELECTRONICS CO.,LTD
DRAWN	<i>YiPing</i>	2018.08.14	

CHECKED		TITLE:	LA1120 带灯开关
APPROVALS		PART NO.	CLA112001W01

TOLERANCES ARE	$30 < L < 30$ ±0.30 $10 < L < 30$ ±0.20 $5 < L < 10$ ±0.15 $L \leq 5$ ±0.10	ANGLE	UNIT: mm	SCALE: 2:1	PROJ: 
DRAWING NO.	KHA-LA1120-001EN	SHEET	1 OF 1		

ECN NO.	REV.	DATE.	DESCRIPTION.	CHANGE.	CHECK.	APPRO.
	A	2018.08.14	NEW			

## 1. 一般特性 General Characteristics

- 1.1 额定值(Rating Value): DC12V 30mA.
- 1.2 工作温度(Work Temperature Range):  $-20^{\circ}\text{C} \sim 80^{\circ}\text{C}$
- 1.3 存贮温度(Store Temperature Range):  $-20^{\circ}\text{C} \sim 80^{\circ}\text{C}$
- 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:  $5^{\circ}\text{C} \sim 35^{\circ}\text{C}$       相对湿度: 45%~85% RH      气压: 8,600~10,600 帕  
 Temperature:  $5^{\circ}\text{C} \sim 35^{\circ}\text{C}$       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 badness.
- 2.2 产品塑胶部件无严重缩水、披锋、欠注、斑点、破损或变形现象.  
The plastic parts of product have no serious defects such as very serious shrink, scarcity, fleck, disrepair, transmutation, etc.
- 2.3 产品引脚和外壳无严重氧化、脏污、变形、毛刺或电镀不良.  
Lead feet and shell have no serious 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  $5^{\circ}$ )  
Operating switch is unhindered, rhythmical, and there is not palpable clag. (After the keystone is locked, it is normal that the keystone tilt to one side plus or minus  $5^{\circ}$ )
- 2.5 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	接触电阻 Contact Resistance	在低电流 ( $\leq 100\text{mA}$ ) 条件下测试. Measured at low current (100mA or less).	低电阻测试仪 Low Resistance Meter	$500\text{m}\Omega$ 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	$100\text{M}\Omega$ 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, break down 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	<p>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。</p> <p>Operate the keystroke of the switch and then increase press strength gradually, Measured maximum operation force while the travel of the switch is full.</p>	<p>测力计</p> <p>Force Gauge</p>	$350 \pm 80\text{gf}$
4.2	行 程 Full travel	<p>垂直操作开关按键，量测开关顶端最大移动距离。</p> <p>Operate the keystroke of the switch vertically, the travel distance of keystroke moving from its free position to maximum moving distance shall be measurement.</p>	<p>游标卡尺</p> <p>Vernier Caliper</p>	$3.30 \pm 0.5\text{mm}$
4.3	锁住行程 Lock travel	<p>垂直操作开关按键，量测开关从顶端至锁住信号的移动距离。</p> <p>Operate the keystroke of the switch vertically, the travel distance of keystroke moving from its free position to Lock signal moving distance shall be measurement.</p>	<p>游标卡尺</p> <p>Vernier Caliper</p>	$2.2 \pm 0.30 \text{ mm}$

**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	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 $5 \pm 1$ 秒。 The top of the terminals shall be dipped in the solder bath at $230 \pm 5^{\circ}\text{C}$ for $5 \pm 1$ seconds.	控温锡炉  Solder Stove	引脚至少 95% 上锡。  Ninety-five percent of terminals shall be dipped.
5.2	寿命试验 Operation Life	开关在寿命试验设备上以约 30 次 / 分的速度连续被操作，具体次数见规格图示。  Switch shall be operated continuously at about 30 cycles /min without load.	寿命试验机  Life Tester	寿命：100,000 次 实验后： 绝缘电阻： $10\text{M}\Omega$ Min 操作力：变化在 $\pm 50\%$ 内 开关外观及结构无损坏。 Life test: 100,000 cycles After test: Insulation resistance: <b><math>10\text{M}\Omega</math> Min</b> Operating force: Change should be within $\pm 50\%$ of specified value. No abnormalities shall be recognized in appearance and construction.
5.3	耐焊接热 Resistance to Soldering heat	端子焊接部分浸入焊炉，焊炉温度及浸渍时间： 1): 自动焊接 $260 \pm 5^{\circ}\text{C}$ $5 \pm 1\text{S}$ 2): 手动焊接 $300 \pm 5^{\circ}\text{C}$ 2-3S (浸渍深度—接线端应浸到离开根部 1.6mm) 3) 焊接时不可于端子施加外力。  Terminals shall be dipped in the solder 1): Dip Soldering $260 \pm 5^{\circ}\text{C}$ $5 \pm 1\text{S}$ 2): Manual Soldering $380 \pm 5^{\circ}\text{C}$ 2-3S (immersion—depth shall be at copper plating portion of PCB after mounting. (Thickness of PCB=1.6mm) 3): without additional force for terminals.	控温锡炉 控温烙铁  Solder Stove Solder Searing- iron	本体无变形，能满足于机械、电气性能。 Appearance should be not damaged, electrical and mechanical characteristics shall be satisfied.

<p>5.5</p>	<p>耐低温测试 Resistance to Cold Test</p>	<p>放置在温度<math>-25 \pm 2^{\circ}\text{C}</math>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 <math>-25 \pm 2^{\circ}\text{C}</math> for 96 hours, Measurements shall be made after it be subjected to the standard conditions for 1 hour.</p>	<p>高低温试验机 High &amp; Low Temperature Tester</p>	<p>外观, 机械及电气性能均符合要求。 Appearance, electrical and mechanical characteristics shall be satisfied.</p>
<p>5.6</p>	<p>耐湿性测试 Resistance to Humidity Test</p>	<p>放置于温度<math>40 \pm 2^{\circ}\text{C}</math>, 相对湿度为 90~96%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 <math>40 \pm 2^{\circ}\text{C}</math>, relative humidity 90~96% for 96 hours, Measurements shall be made after it be subjected to the standard conditions for 1 hour (Wipe out water drip).</p>	<p>恒温恒湿箱 Temperature &amp; Humidity Tester Chamber</p>	<p>外观, 机械及电气性能均符合要求。 Appearance, electrical and mechanical characteristics shall be satisfied.</p>
<p>5.7</p>	<p>盐雾实验 Salt Mist Test</p>	<p>试件在下述实验后测量: 1. 温度: <math>35 \pm 5^{\circ}\text{C}</math> 2. 盐溶液浓度: <math>5 \pm 1\%</math> (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: <math>35 \pm 5^{\circ}\text{C}</math> 2. Salt solution: <math>5 \pm 1\%</math> (Solids by mass) 3. Duration: 24 hours, 4. After immersing, salt deposit shall be removed by running water.</p>	<p>盐雾试验机 Salt Spray Tester</p>	<p>在金属件上没有严重腐蚀斑点。 No remarkable corrosion shall be recognized in metal parts.</p>



# AX180VGC

1.8MM AXIAL GREEN WATER CLEAR LED LAMP

## DESCRIPTION

- 1.8MM AXIAL TYPE GREEN WATER CLEAR TYPE LED LAMPS.

## MAIN FEATURES

- SURFACE MOUNT ASSEMBLY LAMP.
- COMPATIBLE WITH AUTOMATIC PLACEMENT EQUIPMENT.
- MADE WITH GaP DIODES EMITTING GREEN LIGHT.
- LOW DRIVE CURRENT, RECOMMENDED FORWARD CURRENT: IF=10-20mA.
- HIGH POWER LUMINOUS INTENSITY.
- ALL PLASTIC MOLDED LENS, PROVIDE AN EXCELLENT ON-OFF CONTRAST RATIO.

### ABSOLUTE MAXIMUM RATING TA=25°C

DC Forward Current ( If )	30mA
Pulse Forward Current ( Ifp )	160mA
Reverse Voltage	5V
Reverse Current (Vr=5V)	10μA
Operating Temperature Range	-40°C to +85°C
Lead Soldering Temperature (1.6mm from body)	5 sec 260°C

### TEST CONDITION FOR EACH PARAMETER

Parameter	Symbol	Unit	Test Condition
Forward Voltage	Vf	Voltage	IF=20mA
Luminous intensity	Iv	mcd	IF=20mA
Viewing angle	2θ½	Degree	IF=20mA
Peak forward current	If =Peak	mA	Duty 1/10 @ 1KHz

### PART SELECTION ELECTRICAL / OPTICAL CHARACTERISTICS AND CURVES AT TA=25°C

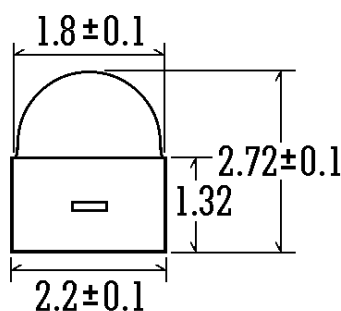
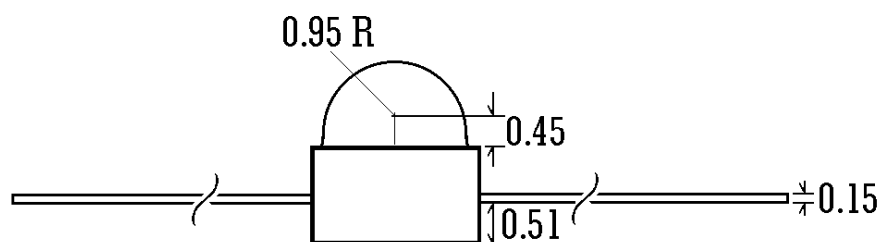
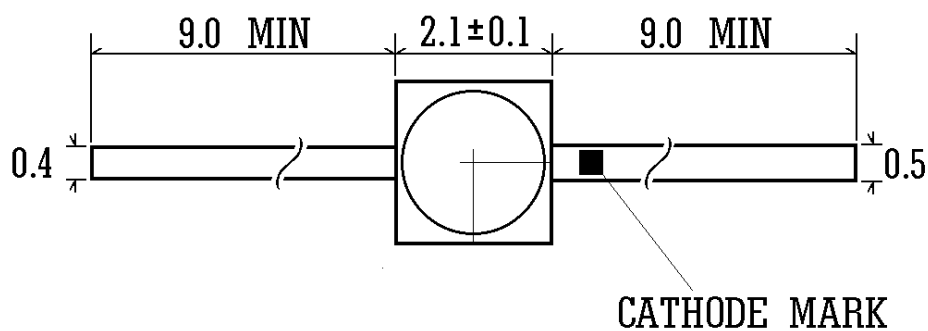
Characteristic	Symbol	Test Condition	Min.	Typ.	Max.	Unit.
FORWARD VOLTAGE	V F	I F =20mA	1.80	2.10	2.80	V
REVERSE CURRENT	I R	V R =5V	—	—	10	uA
LUMINOUS INTENSITY	I v	I F =20mA	40	75	—	mcd
PEAK EMISSION WAVELENGTH	λ p	I F =20mA	565	568	571	nm
SPECTRAL LINE HAIF WIDTH	Δ λ	I F =20mA	—	20	—	nm
DOMINANT WAVELENGTH	λ d	I F =20mA	565	568	571	nm

- Q.A. Outgoing inspection standard:  
Major Defect 0.65 A.Q.L. Minor Defect 1.5 A.Q.L.
- The information contained herein is presented only as a guide for the application of our products. No responsibility is assumed by us for any infringements of intellectual property or other rights of the third parties which may result from its use.
- Specifications are subject to change without notice.

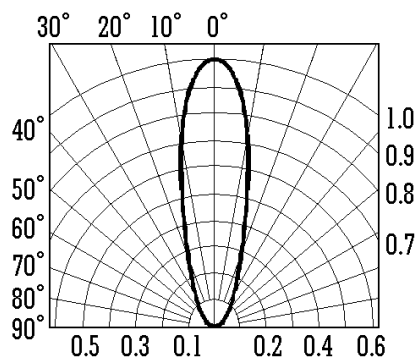


# AX180VGC

1.8MM AXIAL GREEN WATER CLEAR LED  
LAMP



Viewing angle 25 degree



## NOTE:

- All dimensions are in millimeters.
- Clean only in isopropanol, ethanol, Freon TF (or equivalent).
- Specifications are subject to change without notice.