



G-NOR ELECTRONICS CO.,LTD.

Approval Sheet (承认书)

Customer (客户) : _____

Item (条款) : _____ 5 MM LAMP _____

Part No (型号) : _____ GNL-5013UWC-TL 5500K _____

Customer P/N(客户 P/N): _____

PREPARED BY	CHECKED BY	APPROVED BY

SIGNATURE	CHECKED BY	APPROVED BY

供方签章：
SUOOLIER：

日期：
DATE：

客户签章：
CUSTOMER：

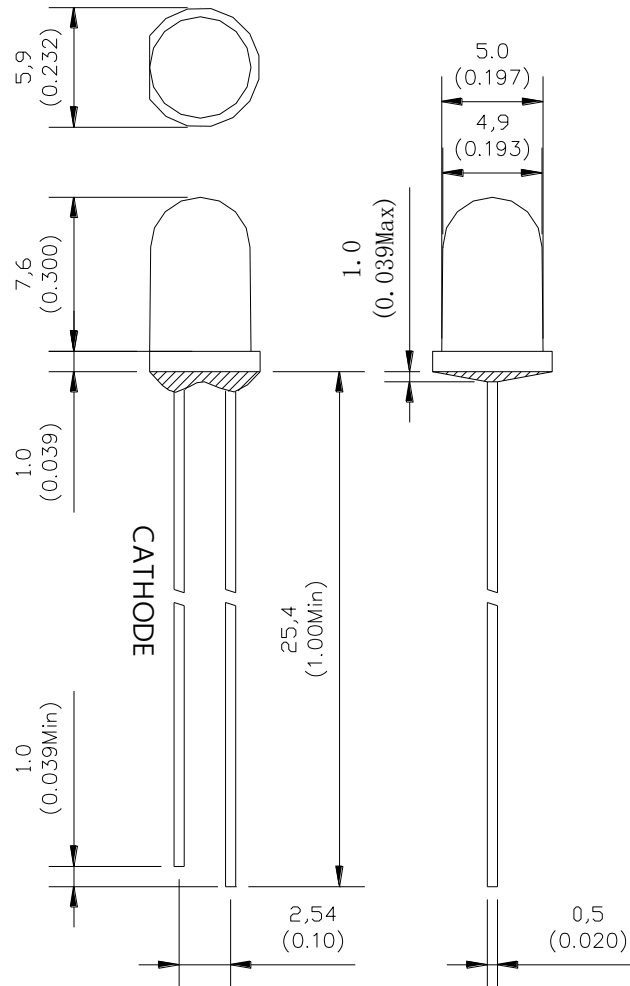
日期：
DATE：

备注：承认签章后请回复一份（或复印件）给我公司，其余由贵司留存存盘。如果在签章的承认书（或复印件）回复我司之前，下了有关此零件的订单且无特殊说明，那么我司就确定贵司已完全承认。

Please return one specification or one copy of it with your chop and signature of approval and retain the others for your record. In the event of an order being placed for this part number before the chop and signed with specification (or copy) is returned and without special explanation, it will be assumed that full approval have been given.

TYPE NO: GNL-5013UWC-TL 5500K

封装尺寸 PACKAGE DIMENSIONS



Note:

1. All Dimensions are in millimeters (所有尺寸都以毫米为单位)
2. Tolerance is $\pm 0.25\text{mm}(0.010\text{'})$ Unless otherwise specified. (公差为 $\pm 0.25\text{mm}(0.010\text{'})$, 除非另有规定)
3. Protruded resin under flemge is $1.5\text{mm}(0.59\text{'})\text{max}$. (膨化树脂在弹力下的最大值为 $1.5\text{mm}(0.59\text{'})$)。
4. This product to static electricity sensitive, Usage the hour please watch for the electricity aegis. (本产品对静电敏感 , 使用时间请留意电导)

Device Selection Guide

发光颜色 Emitting Color	胶体颜色 Lens Type
白 White	水透明 Water Clear

绝对最大值 Absolute Maximum Ratings at Ta=25°C

参数 Parameter	符号 Symbol	极大值 Value	单位 Unit
功率 Power Dissipation	P _D	80	mW
峰值电流 Continuous Forward Current	I _F	30	mA
反向电压 Reverse Voltage	V _R	5	V
工作温度 Operating Temperature Range	Topr	-40°C to +80°C	
储存温度 Storage Temperature Range	Tstg	-25°C to +100°C	
焊接温度 Lead Soldering Temperature 【3mm From Body】	Tsol	260°C For 5 Seconds	

光电参数 Electrical Optical Characteristics at Ta=25°C

参数 Parameter	符号 Symbol	Min	Typ	Max	单位 Unit	测试条件 Condi
正向电压 Forward Voltage	V _F	2.8	---	3.4	V	IF=20mA
发光强度 Luminous Intensity	I _V	9000	12500	14000	mcd	IF=20mA
色温 Temperature Color	CCT	5300	---	5800	K	IF=20mA
半光谱宽度 Spectral Line Half-Width	Δλ	/	30	/	nm	IF=20mA
反向电流 Reverse Current	I _R	/	/	5	μA	VR=5V
视角 Viewing Angle	2θ1/2	/	18	/	deg	IF=20mA

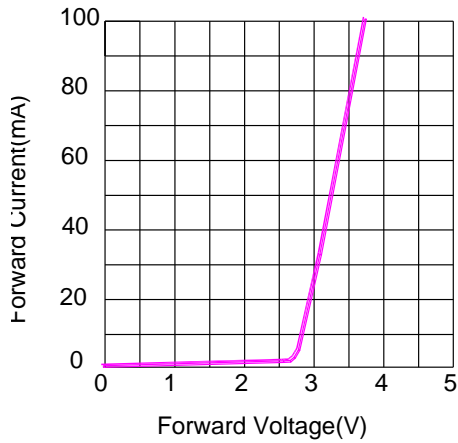
Note.

1. 2θ1/2 is the off axis angle from lamp centerline where the luminous intensity is 1/2 of the peak value. (2θ1/2是从灯的中心线的离轴角度，其发光强度为峰值的1/2)

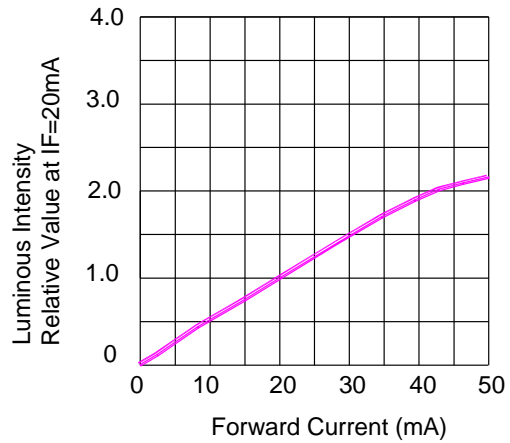
2. View angle tolerance is ± 10(视角公差为±10)

Typical Electro-Optical Characteristics Curves(典型电光特性曲线)

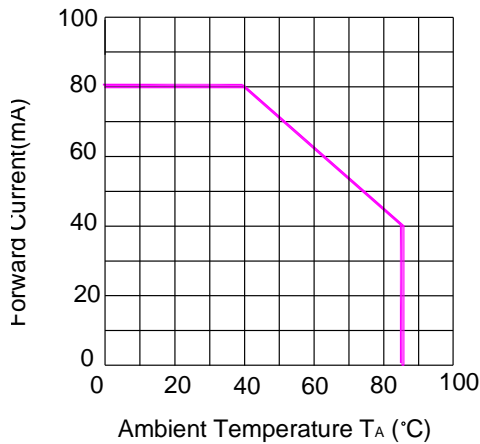
**Forward Current Vs Forward Voltage,
T Ambient=25o C**



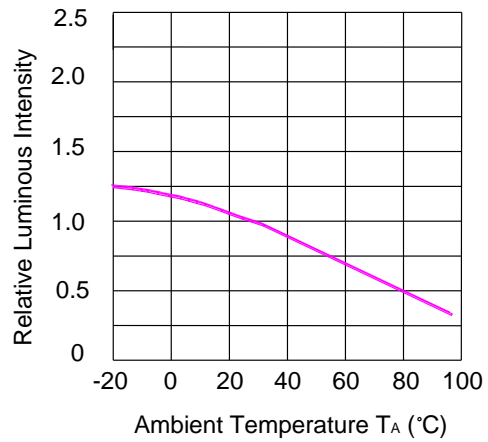
Relative Luminous Intensity vs Forward Current, T Ambient=25o C



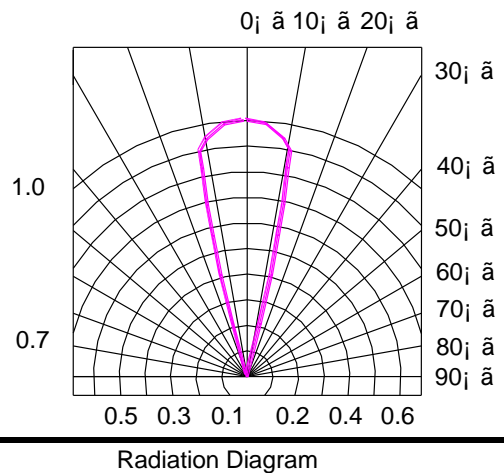
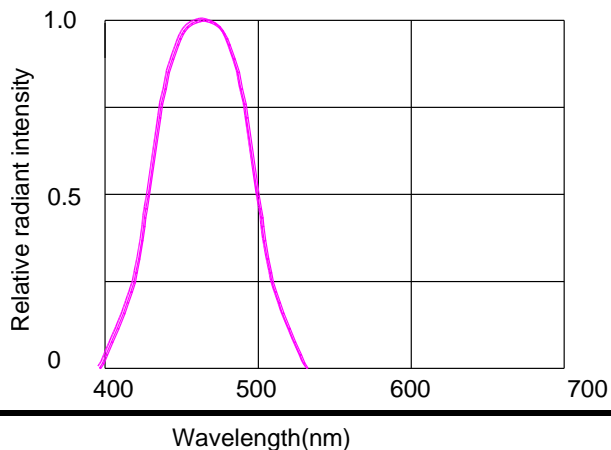
**Forward Current Derating Curve,
Derating based on TjMAX=85j ̊**



Luminous Intensity VS Ambient Temperature



**Relative Spectral Distribution,
IF=20mA, T Ambient=25o C**



Reliability test items and conditions(发光二极管稳定性测试和测试条件)：

NO	测试项目 Item	测试条件 Test Conditions	测试时间和周期 Test Hours/Cycle	测试数量 Sample Size	结论 Judgment
1	焊接热度 Solder Heat	TEMP : 260±5°C	5 SEC	76 PCS	OK
2	极限温度周期 Temperature Cycle	H : +85°C 30min ┆ 5min L : -55°C 30min	50 CYCLES	76 PCS	OK
3	热冲击 Thermal Shock	H : +100°C 5min ┆ 10set L : -10°C 5min	50 CYCLES	76 PCS	OK
4	高温存储 High Temperature Storage	TEMP : 100°C	1000 HRS	76 PCS	OK
5	低温存储 Low Temperature Storage	TEMP : -55°C	1000 HRS	76 PCS	OK
6	直流工作寿命 DC Operating Life	TEMP : 25°C	1000 HRS	76 PCS	OK
7	高温高湿 High Temperature / High Humidity	85°C / 85%RH	1000 HRS	76 PCS	OK

Criteria for Judging the Damage(判断损害的标准)：

测试项 Measuring Item	符号 Symbol	测试条件 Measuring Conditions	测试失败的判断标准 Judgement criteria for failure
正向电压 Forward Voltage	VF	IF=20mA	OVER V* 120% OR 80%
反向电流 Reverse Current	IR	VR=5V	OVER H*2
亮度 Luminous Intensity	IV	IF=20mA	L*0.5

恒值波长 Dominant wavelength	λD	nm	OVER \pm 1.5nm(W)
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Note:

1. V and H means the upper limit of specified characteristics. L and W means initial value

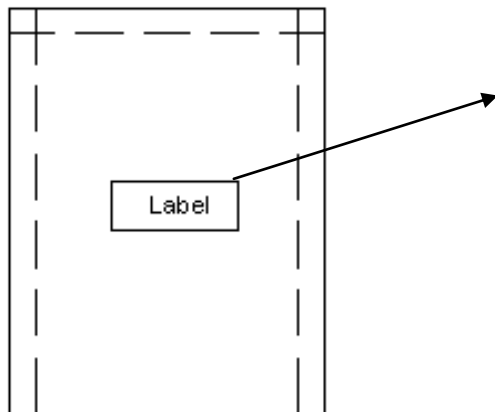
(V 和 H 是指定特征的上限。L 和 W 表示初始值)

2. Measurement shall be taken between 2 hours and after the test pieces have been returned to normal Ambient conditions after completion of each test.

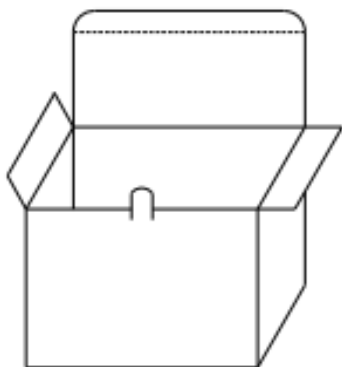
(测量应在测试件恢复正常后 2 小时内进行每项测试完成后的环境条件)

Packing Specification(包装单)

◆Anti-electrostatic bag



◆Inner Carton



◆Label From Specification

Part NO: Production Number

Intensity: Luminous Intensity

Voltage: Forward Voltage

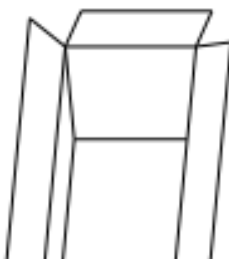
Wavelength: Dominant Wavelength

Lot NO: Lot Number

QTY: Packing Quantity

QC:BIN Code

◆Outside Carton



◆Packing Quantity

1.500 PCS/1 Bag,5 Bags/1 Inner Carton

2.10 Inner Cartons/1 Outside Carton

Welding conditions (焊接规范)

◆Soldering iron : Soldering iron (up to 30W) tip temperature not exceeding 300 degrees Celsius, the welding time is not more than 3 seconds, welding position at least 3 mm from the gel. (钎焊铁 : 焊铁(高达 30W)尖端温度不超过 300 摄氏度 , 焊接时间不超过 3 秒 , 焊接位置距凝胶至少 3 毫米)

◆Dip soldering: The maximum temperature of dip soldering is 260 degrees Celsius, dip soldering time of less than 5 seconds, dip soldering position at least 3 mm from the gel.

(浸焊 : 浸焊最高温度 260 摄氏度 , 浸焊时间不超过 5 秒 , 浸焊位置距凝胶至少 3 毫米)

Pin method of forming (销形法)

◆Bent the lead must be away from the gel of 3 mm. (Picture 1)

(弯曲的铅必须远离 3 毫米的凝胶)

◆Lead must be done by fixture or professionals. (Picture 2)

(灯珠必须由夹具或专业人员来完成)

◆Lead must be completed before welding

(铅必须在焊接前完成)

◆Lead must guarantee pins and spacing consistent with the circuit board

(引线必须保证引脚和间距与电路板一致)

LED assembling method(LED 装配法)

◆Note the arrangement of various types of component leading-out wires, so as to avoid reversed polarity. The components can't be too close to the heated elements. The working condition should not exceed the prescribed limit.

(注意各种类型的元件引线的布置，以避免反向极性.元件不能太靠近受热的元件。工作条件不应该消失。 按照规定的限制

◆Make sure not mount LED when the lead feet become deformed. (Picture 4)

(当铅脚变形时，确保不要安装 LED)

◆When get down to install in the hole, calculate the size and tolerance of the surface hole and holes pitch of the circuit board, so as the lead not to receive excessive pressure.

(Picture 1)

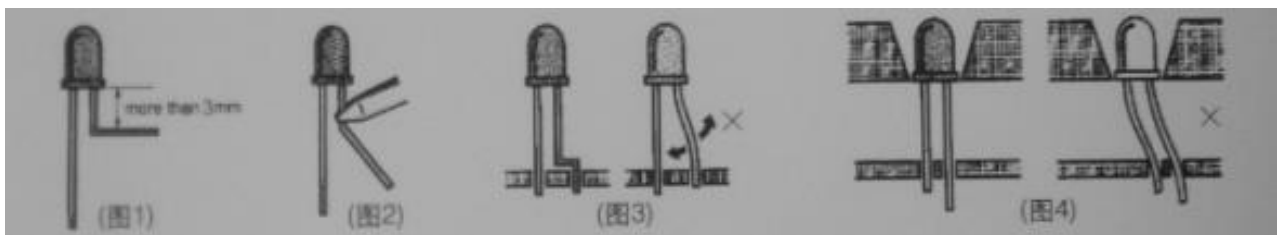
(当下到孔内安装时，计算电路板表面孔和孔间距的大小和公差，以免导致承受过大的压力)

◆We propose the method of mold-guiding position fixing when install the LED

(提出了在安装 LED 时确定模具位置的方法)

◆Before the welding temperature return to normal, LED must be avoided from any shock or external force.

(在焊接温度恢复正常之前，必须避免任何冲击或外力)



(Picture 1)

(Picture 2)

(Picture 3)

(Picture4)

Wash

Be particularly careful when use chemicals wash the colloid, as some chemicals would damage the colloid surface and arouse color fading, such as TCE and Acetone. Can use ethanol to wipe and soak. Time should never over 1min under the normal temperature.

(在使用化学药剂清洗胶体时要特别小心，因为有些化学物质会损坏胶体表面并引起颜色褪色，如 TCE 和丙酮。可以用乙醇擦拭和浸泡。提姆 在常温下不应超过 1 分钟)

Working and storage temperature(工作和储存温度)

LED diode Topr-40°C~80°C. Tstg-25°C~100°C(二极管操作温度)