

RoHS

Specification

规格书

Customer Name :

客户名称 : _____

Customer P/N :

客户品号 : _____

Factory P/N :

公司品号 : HL-304S9AD

Sending Date :

送样日期 : _____

Client approval 客户审核			Goozo approval 鸿利国泽审核		
Approval 核准	Audit 确认	Confirmation 制作	Approval 核准	Audit 确认	Confirmation 制作
					
<input type="checkbox"/> Qualified 接受	<input type="checkbox"/> Disqualified 不接受		DATE: 日期:		

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注:

1.此规格书以中英文方式书写,若有冲突以中文版本为准文本.

2.此规格书的最终解释权归属江苏鸿利国泽光电科技有限公司



ATTENTION 注意
OBSERVE PRECAUTIONS
FOR HANDLING
ELECTROSTATIC
DISCHARGE
SENSITIVE
DEVICES



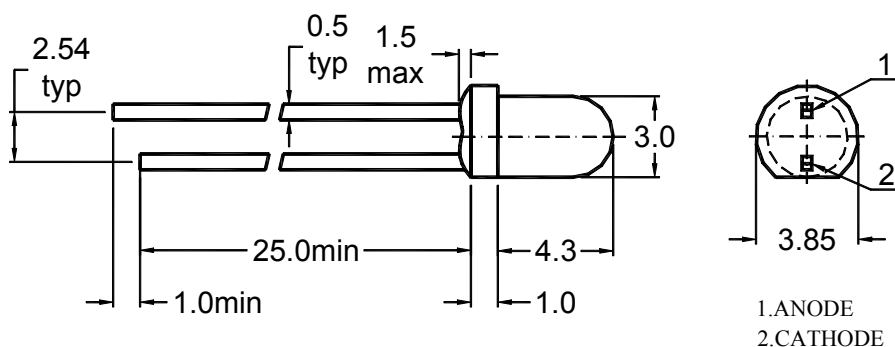
Features (特征)

- $\phi 3$ LAMP LED 直插 $\phi 3$ LED 灯
- LOW POWER CONSUMPTION. 低功耗
- CABINED VIEWING ANGLE. 小角度
- IDEAL FOR BACKLIGHT AND INDICATOR.
用于背光和指示

Description/描述

This devices are made with AlGaInP.
LED 芯片组成元素为 AlGaInP

Package Dimensions 封装尺寸



Tolerance Grade 公差等级	Dimension Tolerance (UNIT:mm) 尺寸误差 (单位:mm)			
	0.5~3	3~6	6~30	30~120
	±0.1	±0.2	±0.3	±0.5
Chip 晶片		Lens Color 透镜颜色		
Material 材料	Emitting Color 发光颜色		Red Diffused 红色散射	
AlGaInP	Red 红色			

■ Absolute Maximum Rating 最大数值

Item 项目	Symbol 符号	Value 数值	Unit 单位
Forward Current 正向电压	IF	30	mA
Peak Forward Current* 峰值正向电流	IFP	100	mA
Reverse Voltage (反向电压)	VR	5	V
Power Dissipation (功耗)	PD	80	mW
Electrostatic discharge(HBM) (抗静电能力)	ESD	4	KV
Operation Temperature (操作温度)	Topr	-30~+80	°C
Storage Temperature (储存温度)	Tstg	-40~+80	°C
Lead Soldering Temperature* (引脚焊接温度)	Tsol	Max. 260°C for 5sec Max.	

* IFP Conditions: Pulse Width ≤ 10msec (IFP 正向峰值电流使用条件: 脉冲宽度 ≤ 10 毫秒)

*Tsol Conditions: 3mm from the base of the epoxy bulb

(Tsol 焊接条件: 焊接位置离胶体底部 3 毫米)

■ The percentage of ESD approved is 90%(ESD 的通过率为 90%)

■ Typical Optical/ Electrical Characteristics Ta=25°C (光电参数 环境温度 25°C)

Item 项目	Symbol 符号	Condition 条件	Rank 档次	Min. 最小值	Typ. 典型值	Max. 最大值	Unit 单位
Luminous Intensity 光强	I _v	IF=20mA	M	210	--	276	mcd
			N	276	--	355	mcd
			O	355	--	460	mcd
Forward Voltage (正向电压)	VF			1.8	2.2	2.6	V
Viewing Angle (角度)	2θ 1/2			--	40	--	deg
Dominant Wavelength (主波长)	λ _D				627	--	635
Recommend Forward Current (推荐使用正向电流)	IF(rec)	--		--	--	20	mA
Reverse Current (反向电流)	IR	Vr=5V		--	--	10	uA

Notes (注释):

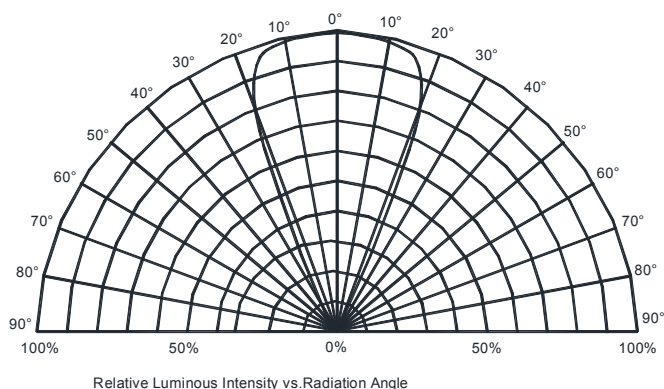
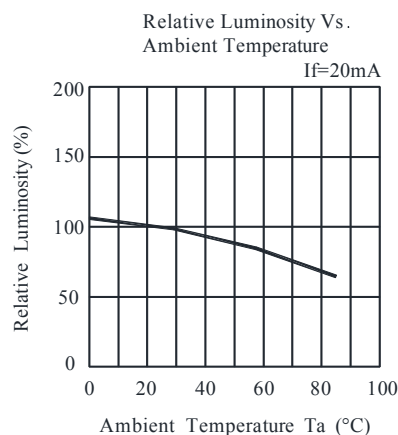
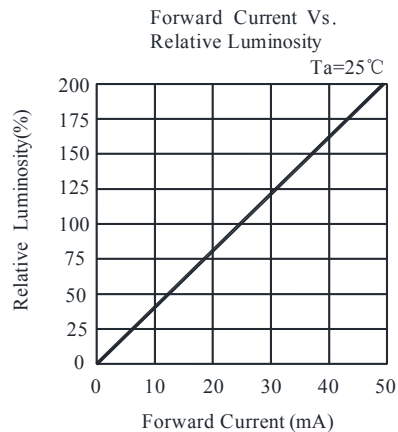
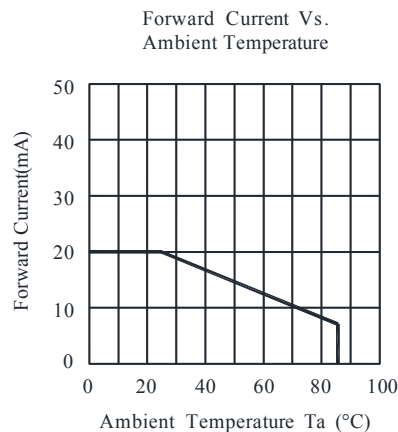
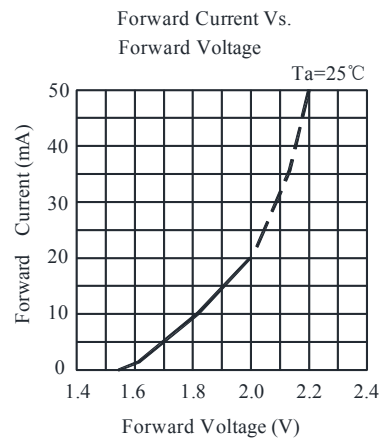
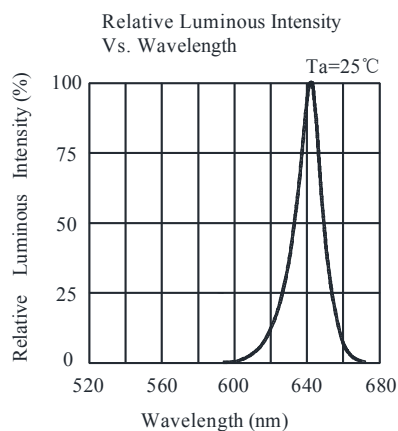
Tolerance : VF ± 0.1V, λ_D ± 2 nm, IV(φV) ± 15%, 2θ 1/2 ± 15%

公差: 正向电压 ± 0.1V, 主波长 ± 2 nm, 光强 (光通量) ± 15%, 角度 ± 15%

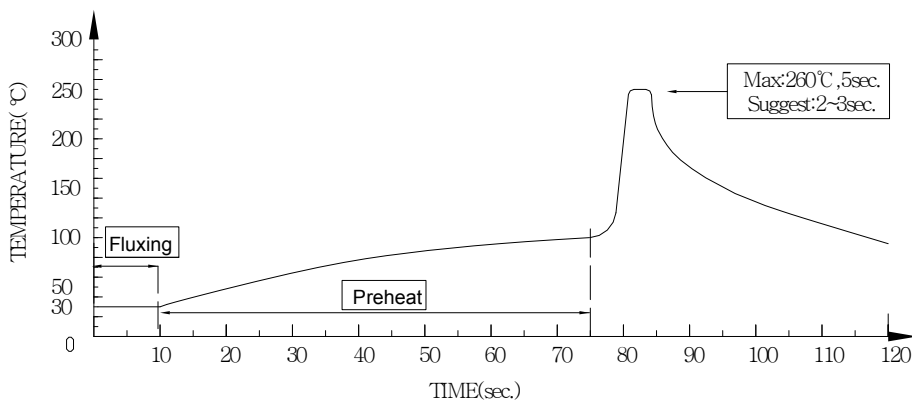
■ Reliability Performance 可靠性
Test Items And Result 测试项目和判定

Test Classification 测试类别	Test Item 测试项目	Test Conditions 测试条件	Test Duration 测试持续时间	Sample Size 样品数量	AC/RE 接受/拒收
Life Test 寿命测试	Room Temperature DC Operating Life Test 室温直流寿命测试	Ta=25°C±5°C, I _f =20mA	1000 hrs	22 pcs	0/1
Environment Test 环境模拟实验	Thermal Shock Test 冷热冲击	100°C±5°C 5min ↑↓ -40°C±5°C 5min.	100 cycles	22 pcs	0/1
	Temperature Cycle Test 高低温循环实验	100°C±5°C 30min ↑↓5min -40°C±5°C 30min.	100 cycles	22 pcs	0/1
	High Temperature & High Humidity Test 高温高湿实验	85°C ± 5°C/85% RH IF=5mA	1000 hrs	22 pcs	0/1
	High Temperature Storage 高温储存	Ta=100°C ± 5°C	1000 hrs	22 pcs	0/1
	Low Temperature Storage 低温储存	Ta=-40°C ± 5°C	1000 hrs	22 pcs	0/1
Mechanica Test 机械测试	Resistance to Soldering Heat 耐焊接实验	Temp=260°C max T=5sec max	1times	22 pcs	0/1
	Lead Integrity 引脚折弯实验	Load 2.5N(0.25kgf) 0° ~ 90° ~0°	3times	22 pcs	0/1

● Typical Electro-Optical Characteristics Curves:



■ Dip Soldering/焊接



1. Please avoid any external stress applied to the lead-frames and epoxy while the LEDs are at high temperature, especially during soldering/在高温焊接过程中，不可有任何外力施加在 LED 的引脚、环氧上；
2. DIP soldering and hand soldering should not be done more than one time/浸焊、手工焊接次数不可超过 1 次；
3. After soldering, avoid the epoxy lens from mechanical shock or vibration until the LEDs are back to room temperature/焊接后，在 LED 温度恢复到室温的过程中，不可受到震动或其它外力的冲击；
4. Avoid rapid cooling during temperature ramp-down process/在 LED 降温过程中，避免急剧的冷却；
5. Although the soldering condition is recommended above, soldering at the lowest possible temperature is feasible for the LEDs/LED 在焊接过程中，应尽可能的降低焊接温度，以减少高温对 LED 的损伤；

■ IRON Soldering/手动焊接

300°C Within 3 sec., One time only/300°C，3 秒，1 次；