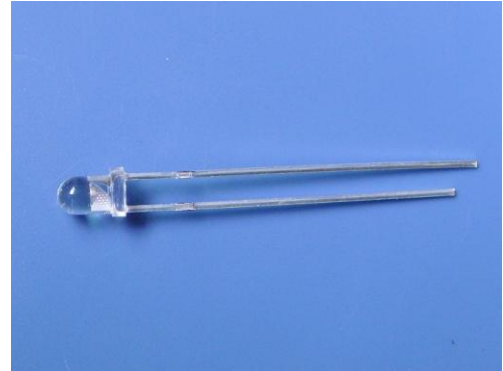


**ATTENTION**  
OBSERVE PRECAUTIONS  
FOR HANDLING  
ELECTROSTATIC  
DISCHARGE  
SENSITIVE  
DEVICES  
请勿裸手接触器件

HL-304H3GC



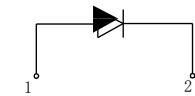
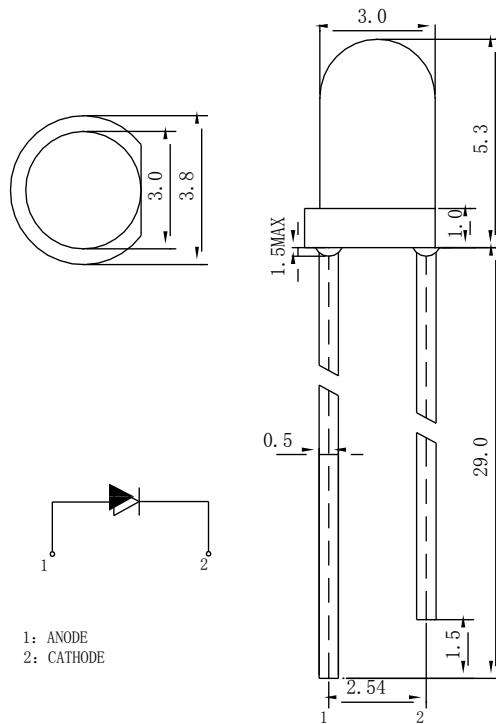
**Features (特征)**

- φ 3LAMP LED 直插φ 3LED 灯
- LOW POWER CONSUMPTION.低功耗
- WIDE VIEWING ANGLE.小角度
- IDEAL FOR BACKLIGHT AND INDICATOR.  
用于背光和指示
- PACKAGE: 1000PCS / BAG.包装:1000PCS/袋

**Description 描述**

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

**Package Dimensions 封装尺寸**



1: ANODE  
2: CATHODE

olerance Grade 公差等级	Dimension Tolerance (UNIT:mm) 尺寸公差 (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		Water Clear 无色透明	
GaP	Greenish Yellow			

**■ 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	20	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 抗静电能力	ESD	2000	V
Operation Temperature 操作温度	Topr	-30~+80	°C
Storage Temperature 储存温度	Tstg	-30~+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

**■ 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 <sub>v</sub>	IF=20mA	J	90		125	mcd
			K	125		160	mcd
			L	160		210	mcd
Forward Voltage 正向电压	VF			1.8	2.2	2.6	V
Viewing Angle 角度	2θ 1/2			--	35	--	deg
Dominant Wavelength 主波长	λ <sub>D</sub>			565	--	575	nm
Recommend Forward Current 推荐使用正向电流	IF(rec)	--		--	--	20	mA
Reverse Current 反向电流	IR	Vr=5V		--	--	20	uA

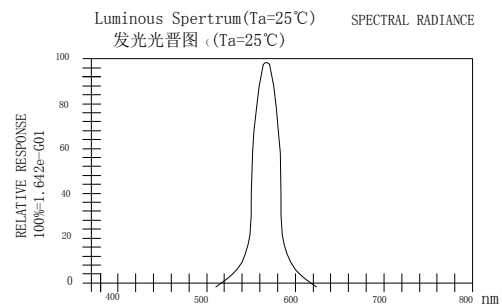
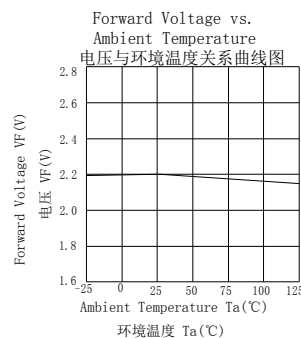
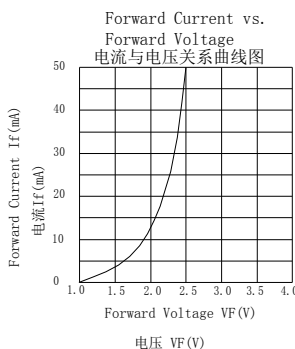
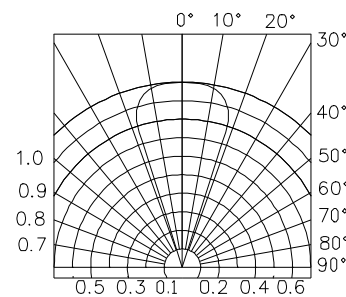
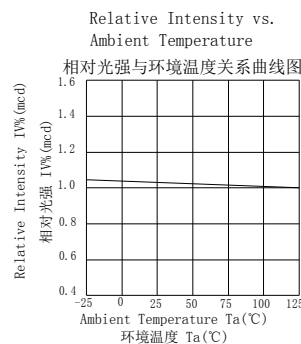
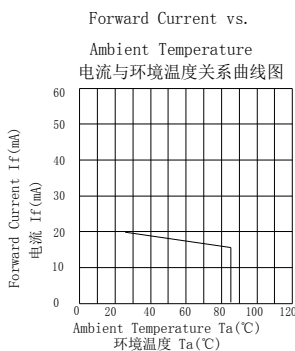
Notes (注释):

Tolerance : VF ± 0.1V, λ<sub>D</sub> ± 2 nm, I<sub>v</sub>(φ V) ± 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	$T_a=25^{\circ}\text{C}\pm 5^{\circ}\text{C}$ , $I_f=20\text{mA}$	1000 hrs	22 pcs	0/1
Environment Test 环境模拟实验	Thermal Shock Test 冷热冲击	$100^{\circ}\text{C}\pm 5^{\circ}\text{C}$ 5min ↑ ↓ $-40^{\circ}\text{C}\pm 5^{\circ}\text{C}$ 5min.	100 cycles	22 pcs	0/1
	Temperature Cycle Test 高低温循环实验	$100^{\circ}\text{C}\pm 5^{\circ}\text{C}$ 30min ↑ ↓ 5min $-40^{\circ}\text{C}\pm 5^{\circ}\text{C}$ 30min.	100 cycles	22 pcs	0/1
	High Temperature & High Humidity Test 高温高湿实验	$85^{\circ}\text{C}\pm 5^{\circ}\text{C}/85\% \text{RH}$ $I_f=5\text{mA}$	1000 hrs	22 pcs	0/1
	High Temperature Storage 高温储存	$T_a=100^{\circ}\text{C}\pm 5^{\circ}\text{C}$	1000 hrs	22 pcs	0/1
	Low Temperature Storage 低温储存	$T_a=-40^{\circ}\text{C}\pm 5^{\circ}\text{C}$	1000 hrs	22 pcs	0/1
Mechanica Test 机械测试	Resistance to Soldering Heat 耐焊接实验	Temp= $260^{\circ}\text{C}$ max T=5sec max	1 times	22 pcs	0/1
	Lead Integrity 引脚折弯实验	Load 2.5N(0.25kgf) $0^{\circ} \sim 90^{\circ} \sim 0^{\circ}$	3 times	22 pcs	0/1



**Soldering (焊接) :**

## 1. Manual Of Soldering (手工焊接)

The temperature of the iron tip should not be higher than 300°C and Soldering within 3 seconds per solder-land is to be observed. (烙铁最高温度不高于 300°C, 焊接时间小于 3 秒)

## 2. DIP soldering (Wave Soldering) (波峰焊接:)

Preheating: 120°C~150°C, within 120~180 sec. (预热温度 120°C~150°C, 小于 120~180 秒)

Operation heating: 245°C ± 5°C within 5 sec. 260°C (Max)

操作温度: 245°C ± 5°C 小于 5 秒, 最高温度不高于 260°C

Gradual Cooling (Avoid quenching).

过完波峰焊后应缓慢冷却。

