

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

HL-508H236BC



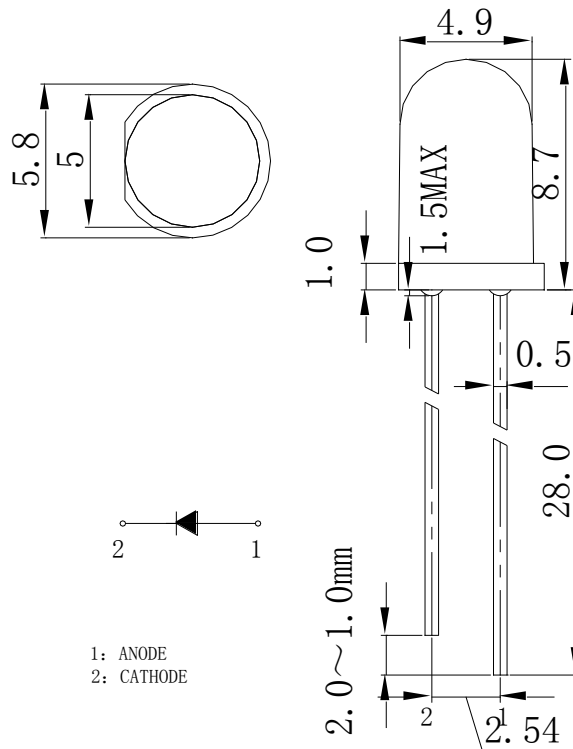
Features (特征)

- φ 5 LAMP LED 直插φ 5 LED 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

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

Package Dimensions 封装尺寸



| Tolerance 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 | |
| GaN | Blue | | | |

■ 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 | 1000 | 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 | Iv | IF=20mA | Z | 6370 | | 8280 | mcd |
| | | | Z1 | 8280 | | 10750 | mcd |
| | | | Z2 | 10750 | | 14000 | mcd |
| Forward Voltage 正向电压 | VF | | | 2.8 | 3.2 | 3.6 | V |
| Viewing Angle 角度 | 2θ 1/2 | | | -- | 15 | -- | deg |
| Dominant Wavelength 主波长 | λD | | | | 470 | -- | 480 |
| 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 |

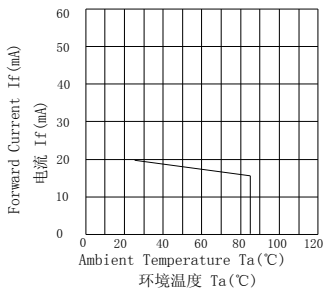
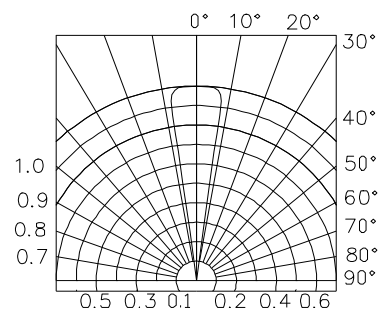
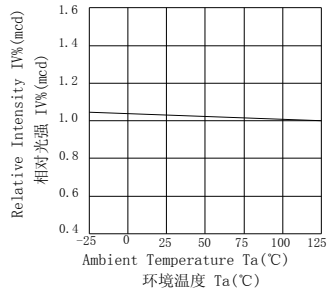
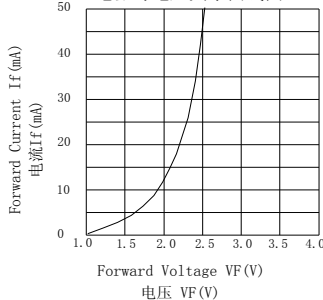
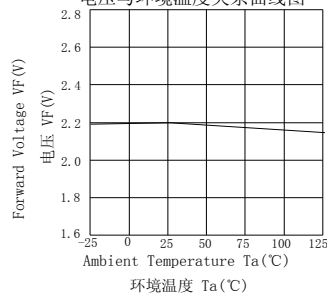
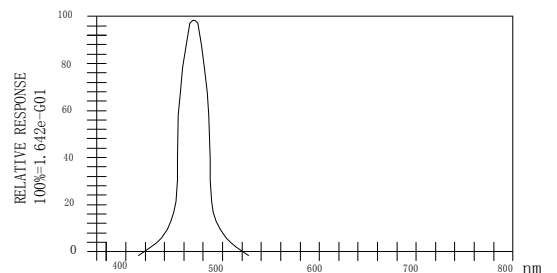
Notes (注释):

Tolerance : VF ± 0.1V, λ d ± 2 nm, IV(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°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 |

 Forward Current vs. Ambient Temperature
 电流与环境温度关系曲线图

 Relative Intensity vs. Ambient Temperature
 相对光强与环境温度关系曲线图

 Forward Current vs. Forward Voltage
 电流与电压关系曲线图

 Forward Voltage vs. Ambient Temperature
 电压与环境温度关系曲线图

 Luminous Spectrum ($T_a=25^{\circ}\text{C}$) SPECTRAL RADIANCE


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

