## 5mm Round LED Lamps

**PART NO.:L-05G4A142C11-01-T-A**

**ATTENTION**
OBSERVE PRECAUTIONS
FOR HANDLING
ELECTROSTATIC
DISCHARGE
SENSITIVE
DEVICES

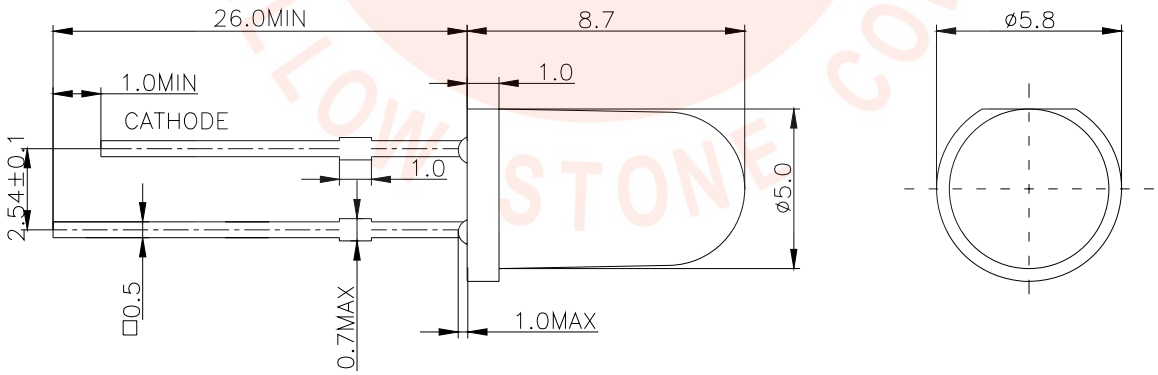
### Features

- Low power consumption
- Excellent product quality and reliability
- Lead-free device.

### Applications

- Electronic signs and signals
- Bright ambient lighting conditions
- Backlings.
- General purpose indicatiors

### Package Dimensions




Notes:
1. All dimensions are in millimeters.
2. Tolerance is ±0.25 unless otherwise noted.
3. Lead spacing is measured where the leads emerge from the package.
4. Specifications are subject to change without notice.

## Device Selection Guide

| Part No. | Chip | | Lens color |
|---|---|---|---|
| **L-05G4A142C11-01-T-A** | Material | Emitted color | Water Clear |
| | InGaN | Green | |

## Absolute Maximum Ratings at TA=25°C

| Parameter | Symbol | Value | Unit |
|---|---|---|---|
| Power Dissipation | $P_D$ | 120 | mW |
| Forward Current | $I_F$ | 30 | mA |
| Peak Forward Current*1 | $I_{FP}$ | 100 | mA |
| Reverse Voltage | $V_R$ | 5 | V |
| Operating Temperature | Topr | -40°C To +85°C | |
| Storage Temperature | Tstg | -40°C To +85°C | |
| Soldering Temperature*2 | Tsol | 260°C For 5 Seconds | |

Notes:
*1: Pulse width≤0.1ms, Duty cycle≤1/10
*2：1.6mm below package base.

## Electrical / Optical Characteristics at $T_A$=25°C

| **Parameter** | Symbol | Min. | Typ. | Max | Unit | Test Conditions |
|---|---|---|---|---|---|---|
| Forward Voltage | $V_F$ | — | 3.20 | — | V | IF=20mA |
| Reverse Current | $I_R$ | — | — | 10 | μA | VR=5V |
| Dominant Wavelength | λd | — | 518 | — | nm | IF=20mA |
| Peak Wavelength | λP | — | 515 | — | nm | IF=20mA |
| Spectral line Half-width | Δλ | — | 30 | — | nm | IF=20mA |
| Luminous Intensity | $I_V$ | — | 15000 | — | mcd | IF=20mA |
| Power Angle | 2θ1/2 | — | 15 | — | Deg. | IF=20mA |

Remarks:
If special sorting is required (e.g. binning based on forward voltage, luminous intensity, or dominant wavelength), the typical accuracy of the sorting process is as follows:
1.Dominant Wavelength:+/-1nm
2.Chromatic Coordinates:+/-0.01
3. Luminous Intensity: +/-15%
4. Forward Voltage: +/-0.1V
5.The design and working Current for Led is not less than2mA.

## ◆ VF Rank

| Rank | VF(V) | | Condition |
|---|---|---|---|
| | Min | Max | |
| F2G1 | 2.8 | 3.0 | IF=20mA |
| G2H1 | 3.0 | 3.2 | |
| H2I1 | 3.2 | 3.4 | |
| I2J1 | 3.4 | 3.6 | |

**Tolerance:**±0.1V

## ◆ λD Rank

| Rank | λD(nm) | | Condition |
|---|---|---|---|
| | Min | Max | |
| G8 | 514 | 516 | IF=20mA |
| G9 | 516 | 518 | |
| GA | 518 | 520 | |
| GB | 520 | 522 | |

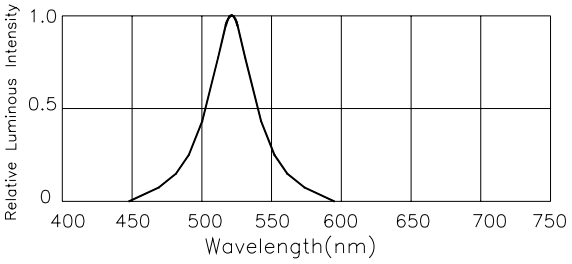
**Tolerance:**±1nm

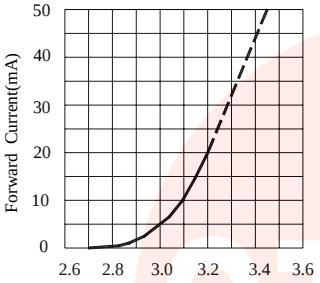
## ◆ IV Rank

| Rank | IV(mcd) | | Condition |
|---|---|---|---|
| | Min | Max | |
| R | 8000 | 12000 | IF=20mA |
| S | 12000 | 18000 | |

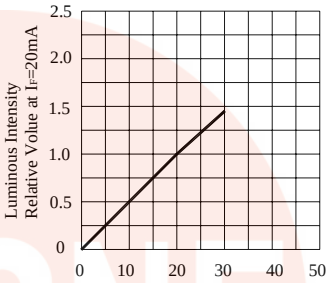
**Tolerance:**±15%

## Typical Electrical/Optical Characteristics Curves
**( Ta=25℃ Unless Otherwise Noted )**

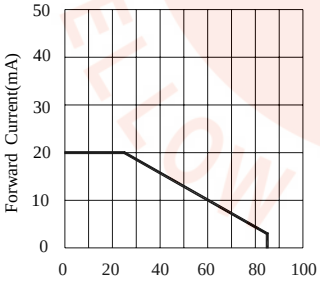


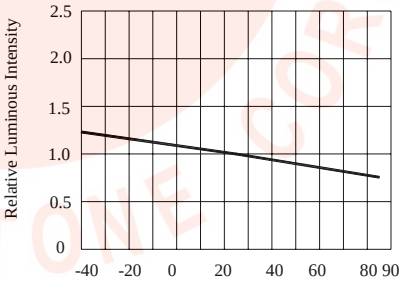

FORWARD CURRENT Vs.
FORWARD VOLTAGE



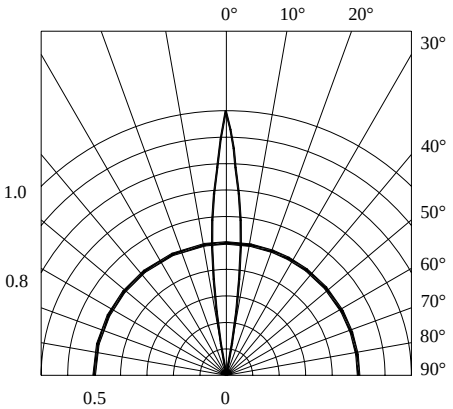

LUMINOUS INTENSITY Vs.
FORWARD CURRENT




FORWARD CURRENT
DERATING CURVE




LUMINOUS INTENSITY Vs.
AMBIENT TEMPARATURE




SPATIAL DISTRIBUTION

## ◆ CAUTIONS:

### 1.Lead Forming & Assembly

- Any lead forming or bending must be done before soldering, at normal temperature.
- When forming leads, there must be a minimum of 3mm clearance between the base of the LED lens and the lead bend.
- Do not use the base of the lead frame as a fulcrum during lead forming.
- Avoid bending the leads at the same point more than once.
- During assembly onto PCB, the lead pitch of the LED must match the pitch of the mounting holes on the PCB during component placement.

### 2.Cleaning:

- Isopropyl alcohol or deionized water are recommended solvents for cleaning. When using other solvents, it should be confirmed beforehand whether the solvents will dissolve the resin or not.

### 3.Storage

- The storage ambient for the LEDs should not exceed 30℃ temperature or 70% relative humidity.
- It is recommended that LEDs out of their original packaging are used within three months. For extended storage out of their original packaging, it is recommended that the LEDs be stored in a sealed container with appropriate desiccant or in desiccators with nitrogen ambient.

### 4.ESD ( Electrostatic Discharge)

Static Electricity or power surge will damage the LED.
The following procedures may decrease the possibility of ESD damage.

- All production machinery and test instruments must be electrically grounded.
- Use a conductive wrist band or anti-electrostatic glove when handling these LEDs.
- Maintain a humidity level of 50% or higher in production areas.
- Use anti-static packaging for transport and storage.