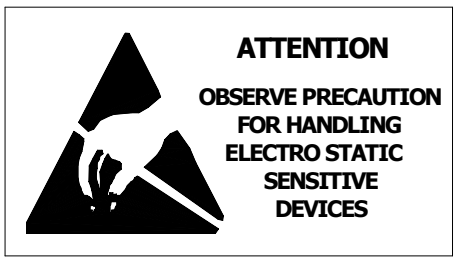
LEDTECH ELECTRONICS CORP.

NANYA ROAD,MUGANG ZHAOQING
CITY GUANGDONG CHINA.
TEL:86-758-2875541,2870651,2877464,2876185,2877017
FAX:86-758-2878014
*Http://www.ledtech.com.tw*

# SPECIFICATION

*PART NO. :* LP30NR-S090

COB 50X50mm TYPE


| Approved by | Checked by | Prepared by |
|---|---|---|
| 王方波 | 蘇智良 | 顏保宏 |

## MODIFY RECORD

| TAKE EFFECT DATE | MODIFY ISSUES | REMARKS |
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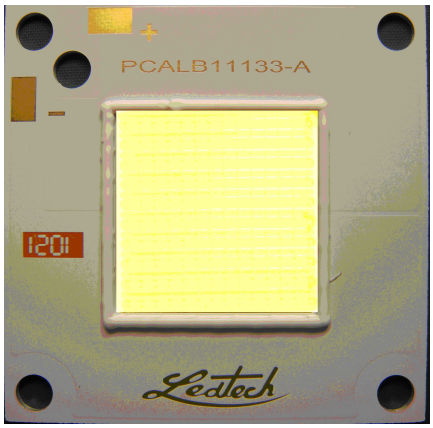


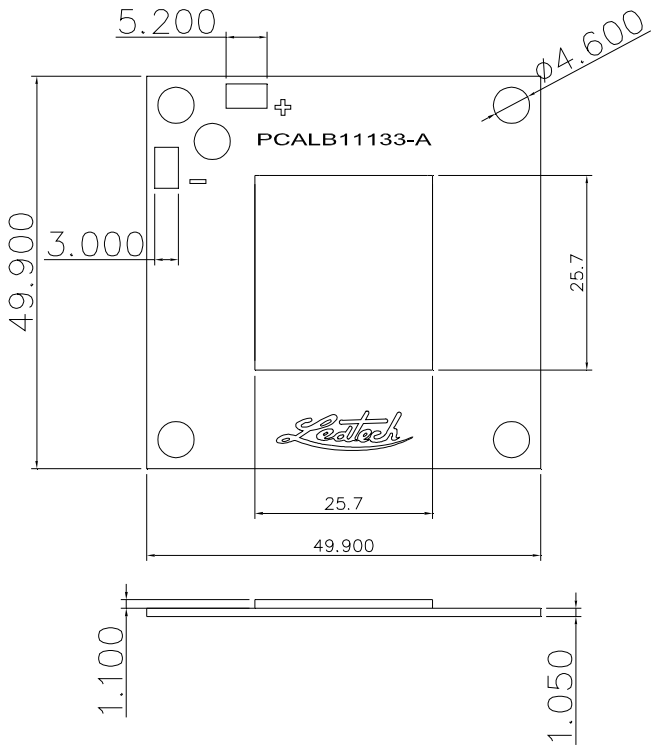

## Features

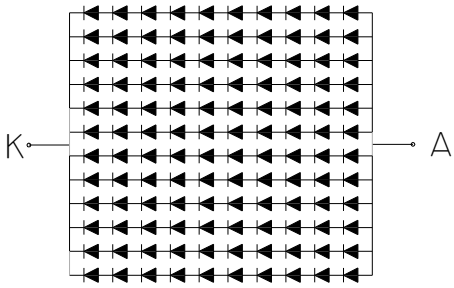
- Pb-Free soldering application
- RoHS compliance
- Multi-Chip package
- High Reliability

## Application

- Bay-light module
- Indoor decorative lighting
- Illumination
- Automotive Application
- Architectural Lighting
- Indicator / Decoration

## Package Dimensions




**Notes:**

1. All dimensions are in mm.
2. Tolerance is ±0.5mm unless otherwise noted.

## Description

| Part No. | LED Chip | | Lens Color |
|---|---|---|---|
| | Material | Emitting Color | |
| LP30NR-S090 | InGaN/GaN | Warm White | Yellow Diffused |

## Absolute Maximum Ratings at Ta=25 ℃

| Parameter | Symbol | Rating | Unit |
|---|---|---|---|
| Power Dissipation | PD | 25.2 | W |
| D.C. Forward Current | If | 700 | mA |
| Peak Current(1/10Duty Cycle,0.1ms Pulse Width.) | If(Peak) | 750 | mA |
| Operating Temperature Range | Topr. | -40 to +100 | ℃ |
| Storage Temperature Range | Tstg. | -40 to +100 | ℃ |
| Solder Heat Resistance | SHR | Hand Soldering:300±5℃ for 3 sec. | |
| Electric Static Discharge Threshold (HBM) | ESD | 1000 | V |

## Electrical and Optical Characteristics:

| Parameter | | Symbol | Condition | Min. | Typ. | Max. | Unit |
|---|---|---|---|---|---|---|---|
| Luminous Flux | | Flux | If=700mA | - | 1950 | - | lm |
| | Rank 01 | | | 1500 | - | 1800 | |
| | Rank 02 | | | 1800 | - | 2100 | |
| | Rank 03 | | | 2100 | - | 2400 | |
| Forward Voltage | | VF | If=700mA | - | 30.8 | - | V |
| | Rank U07 | | | 28 | - | 32 | |
| | Rank U08 | | | 32 | - | 36 | |
| CIE Chromaticity Coordinates : X Axis | | X | If=700mA | - | 0.4338 | - | |
| CIE Chromaticity Coordinates : X Axis | | Y | If=700mA | - | 0.403 | - | |
| Correlated Color Temperature | | CCT | If=700mA | 2850 | -- | 3200 | °K |
| Color Rendering Index | | CRI | If=700mA | 70 | - | - | *Ra* |
| Reverse Current | | Ir | Vr=5V | - | - | 100 | μA |
| Viewing Angle | | 2θ 1/2 | If=700mA | - | 120 | - | deg |
| Thermal Resistance Junction to Case | | $R\theta_{J-C}$ | If=700mA | - | 15 | - | ℃/W |

Notes:

1. The datas tested by IS tester.
2. Customer's special requirements are also welcome.

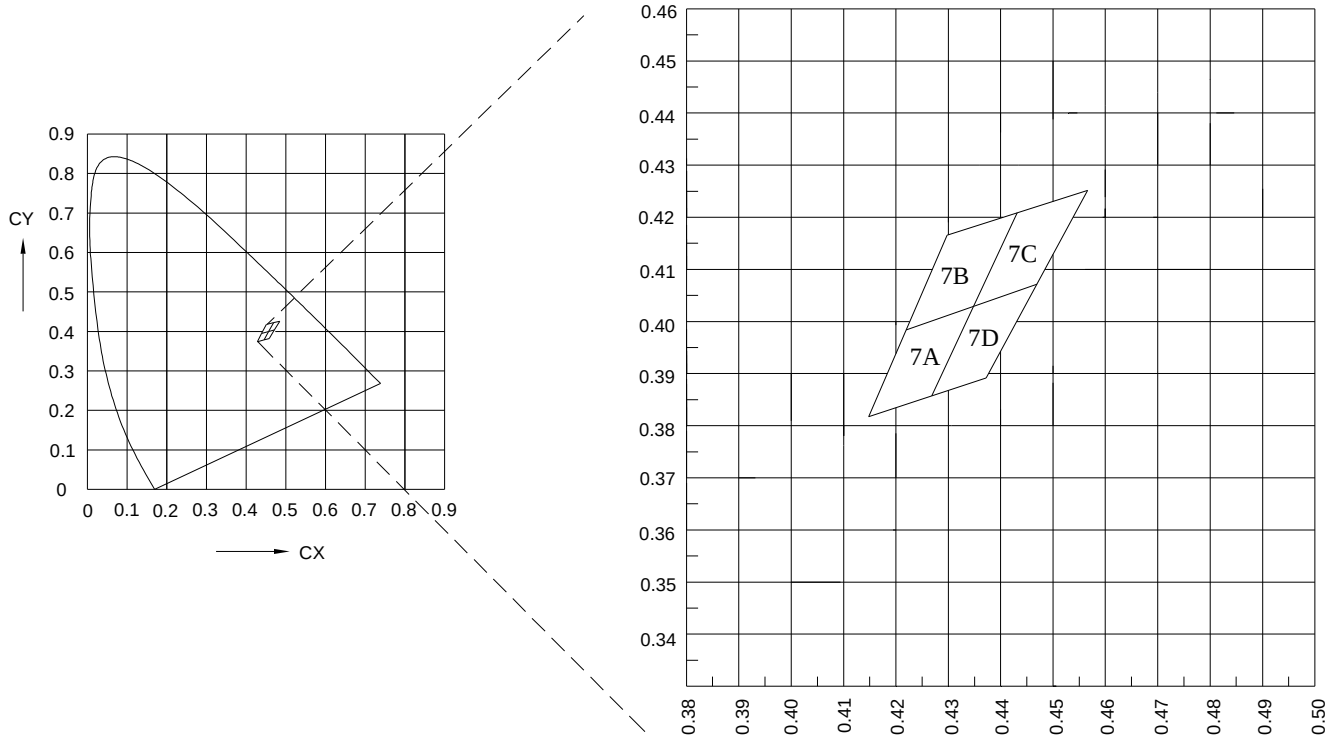
## Chromaticity Coordinates Specifications for Bin Grading:

COLOR RANKS (IF=700mA.Ta=25℃)

| BIN | RANK | | | | |
|---|---|---|---|---|---|
| 7A | X | 0.4147 | 0.4221 | 0.4342 | 0.4259 |
| | Y | 0.3814 | 0.3984 | 0.4028 | 0.3853 |
| 7B | X | 0.4221 | 0.4299 | 0.4430 | 0.4342 |
| | Y | 0.3984 | 0.4165 | 0.4212 | 0.4028 |
| 7C | X | 0.4342 | 0.4430 | 0.4562 | 0.4465 |
| | Y | 0.4028 | 0.4212 | 0.4260 | 0.4071 |
| 7D | X | 0.4259 | 0.4342 | 0.4465 | 0.4373 |
| | Y | 0.3853 | 0.4028 | 0.4071 | 0.3893 |

Note: X.Y Tolerance each Bin limit is±0.01.

## Chromaticity Coordinates & Bin grading diagram:



## Typical Electrical/Optical Characteristic Curves

**(25℃ Ambient Temperature Unless Otherwise Noted)**

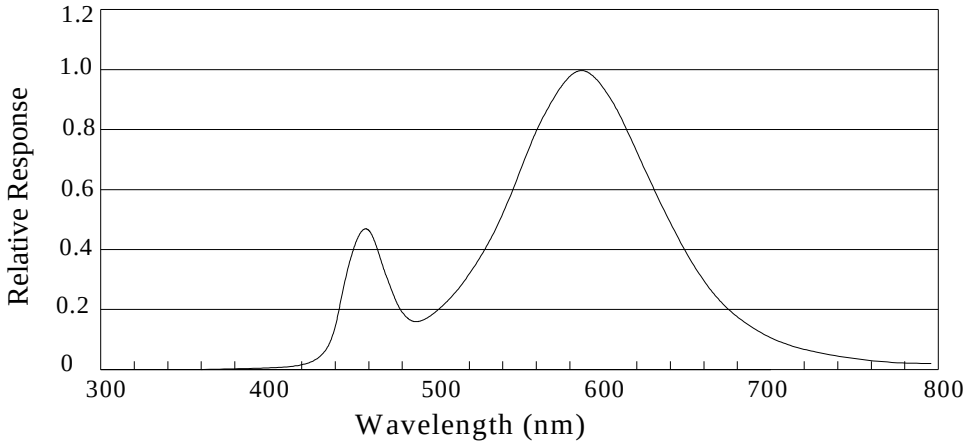
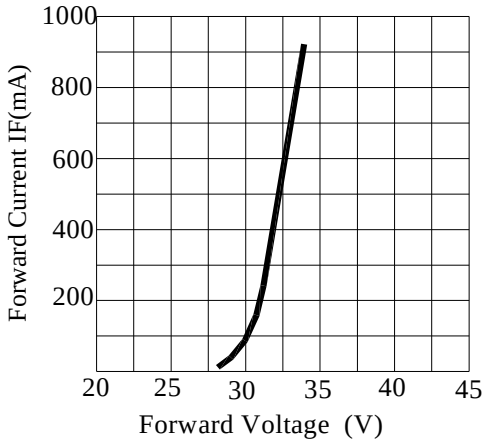
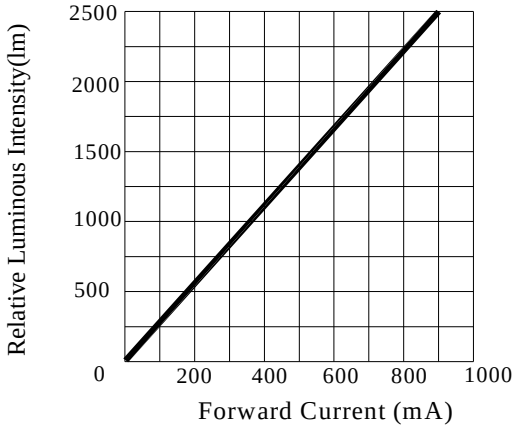


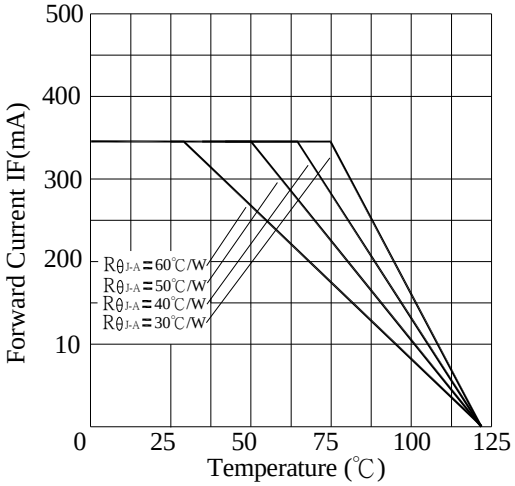

Fig.1 WHITE LED Spectrum VS. WAVELENGTH



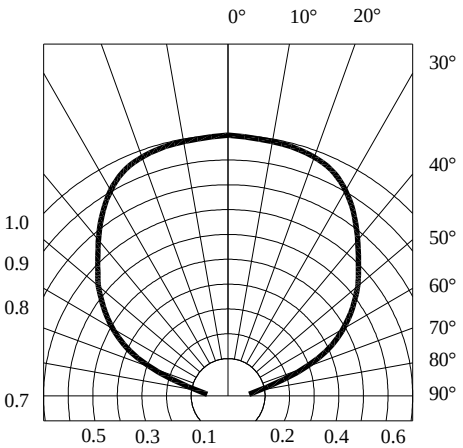

Forward Current VS. Applied Voltage




Forward Current VS. Luminous Intensity




Ambient Temperature VS. Forward Current




Radiation Diagram

# Handling of Silicone Resin LEDs

## Handling Indications

**During processing, mechanical stress on the surface should be minimized as much as possible. Sharp objects of all types should not be used to pierce the sealing compound**

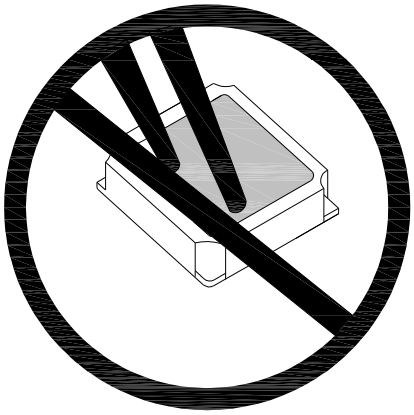


**Figure 1**

**In general, LEDs should only be handled from the side. By the way, this also applies to LEDs without a silicone sealant, since the surface can also become scratched.**

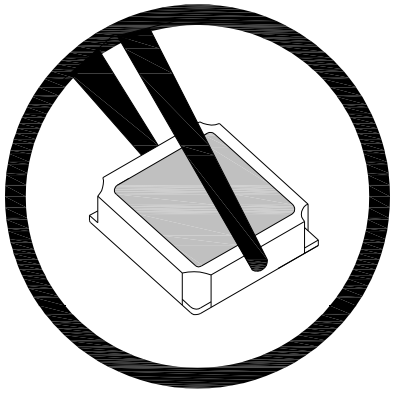


**Figure 2**

**When populating boards in SMT production, there are basically no restrictions regarding the form of the pick and place nozzle, except that mechanical pressure on the surface of the resin must be prevented. This is assured by choosing a pick and place nozzle which is larger than the LED's reflector area.**