



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

Part Number: L-130WCP/1MBN1XGW

Blue  
Pure Orange  
Green

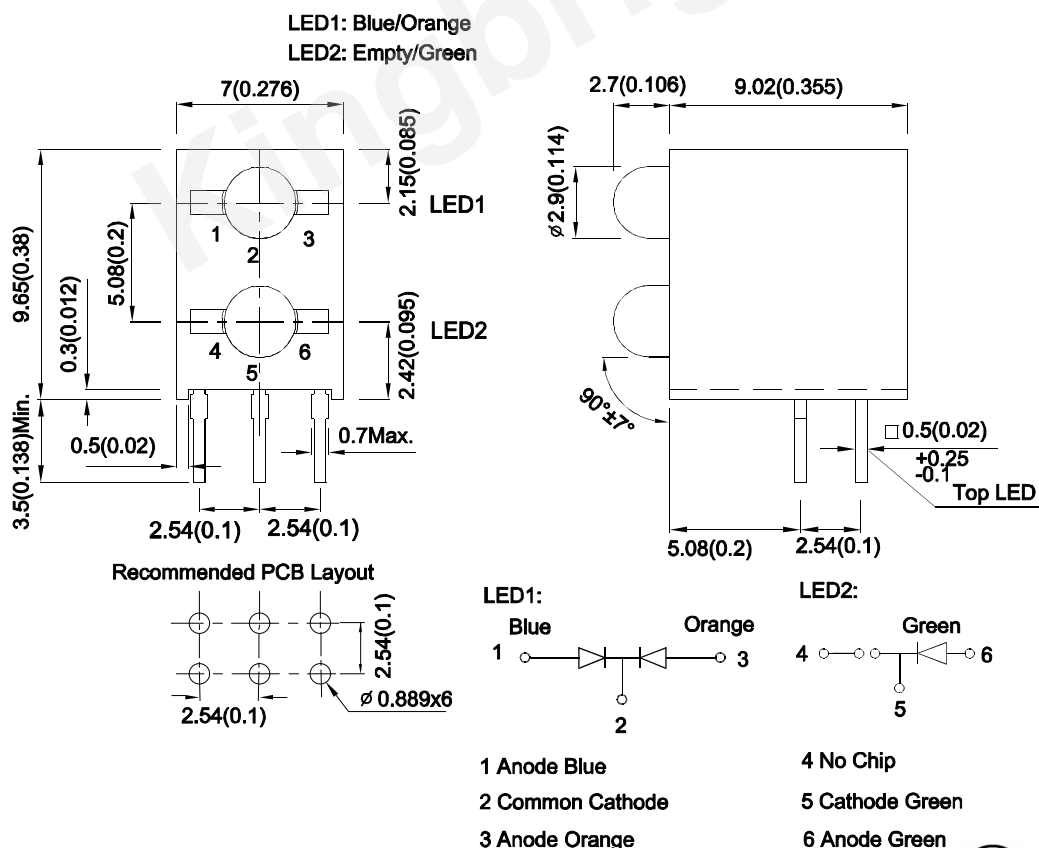
### Features

- Bi-level right angle housing LED.
- Pre-trimmed leads for pc board mounting.
- Black case enhances contrast ratio.
- High reliability.
- Housing UL rating:94V-0.
- Housing material: type 66 nylon.
- RoHS compliant.

### Descriptions

- The Blue source color devices are made with GaN on SiC Light Emitting Diode.
- The Pure Orange source color devices are made with Gallium Arsenide Phosphide on Gallium Phosphide Pure Orange Light Emitting Diode.
- The Green source color devices are made with Gallium Phosphide Green Light Emitting Diode.
- Electrostatic discharge and power surge could damage the LEDs.
- It is recommended to use a wrist band or anti-electrostatic glove when handling the LEDs.
- All devices, equipments and machineries must be electrically grounded.

### Package Dimensions



#### Notes:

1. All dimensions are in millimeters (inches).
2. Tolerance is  $\pm 0.25(0.01)$  unless otherwise noted.
3. Lead spacing is measured where the leads emerge from the package.
4. The specifications, characteristics and technical data described in the datasheet are subject to change without prior notice.



## Selection Guide

Part No.	Emitting Color (Material)	Lens Type	Iv (mcd) [2] @ 20mA		Viewing Angle [1]
			Min.	Typ.	2θ1/2
L-130WCP/1MBN1XGW	Blue (GaN)	White Diffused	10	30	60°
	Pure Orange (GaAsP/GaP)		*10	*30	
			15	40	
		*10	*30		
	Green (GaP)	White Diffused	12	30	60°
			*12	*30	

Notes:

1. θ1/2 is the angle from optical centerline where the luminous intensity is 1/2 of the optical peak value.

2. Luminous intensity / luminous Flux: +/-15%.

\* Luminous intensity value is traceable to CIE127-2007 standards.

## Electrical / Optical Characteristics at TA=25°C

Symbol	Parameter	Emitting Color	Typ.	Max.	Units	Test Conditions
λpeak	Peak Wavelength	Blue Pure Orange Green	430 607 565		nm	If=20mA
λD [1]	Dominant Wavelength	Blue Pure Orange Green	466 602 568		nm	If=20mA
Δλ1/2	Spectral Line Half-width	Blue Pure Orange Green	60 35 30		nm	If=20mA
C	Capacitance	Blue Pure Orange Green	100 15 15		pF	Vf=0V;f=1MHz
Vf [2]	Forward Voltage	Blue Pure Orange Green	3.8 2.05 2.2	4.5 2.5 2.5	V	If=20mA
IR	Reverse Current	Blue Pure Orange Green		10 10 10	uA	VR=5V

Notes:

1. Wavelength: +/-1nm.

2. Forward Voltage: +/-0.1V.

3. Wavelength value is traceable to CIE127-2007 standards.

4. Excess driving current and / or operating temperature higher than recommended conditions may result in severe light degradation or premature failure.

## Absolute Maximum Ratings at TA=25°C

Parameter	Blue	Pure Orange	Green	Units
Power dissipation	135	62.5	62.5	mW
DC Forward Current	30	25	25	mA
Peak Forward Current [1]	150	145	140	mA
Reverse Voltage	5			V
Operating/Storage Temperature	-40°C To +85°C			
Lead Solder Temperature [2]	260°C For 3 Seconds			
Lead Solder Temperature [3]	260°C For 5 Seconds			

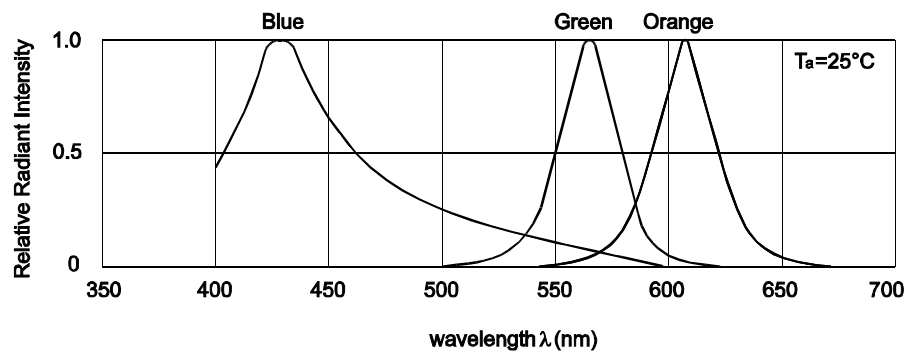
Notes:

1. 1/10 Duty Cycle, 0.1ms Pulse Width.

2. 2mm below package base.

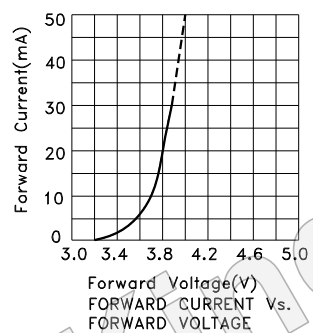
3. 5mm below package base.

4. Relative humidity levels maintained between 40% and 60% in production area are recommended to avoid the build-up of static electricity – Ref JEDEC/JESD625-A and JEDEC/J-STD-033.

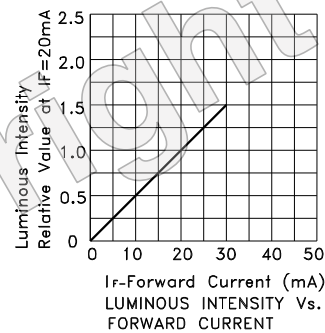


Relative Intensity Vs. Wavelength

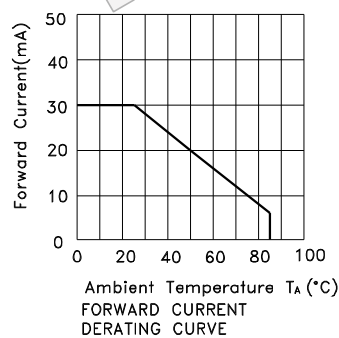
## L-130WCP/1MBN1XGW Blue



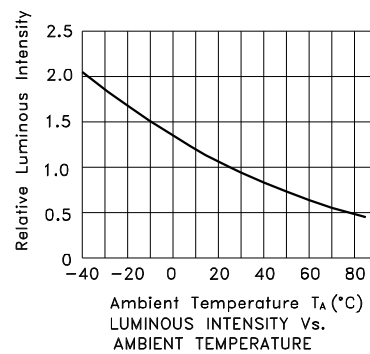
FORWARD CURRENT Vs.  
FORWARD VOLTAGE



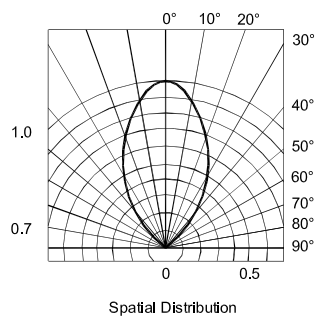
LUMINOUS INTENSITY Vs.  
FORWARD CURRENT



FORWARD CURRENT  
DERATING CURVE

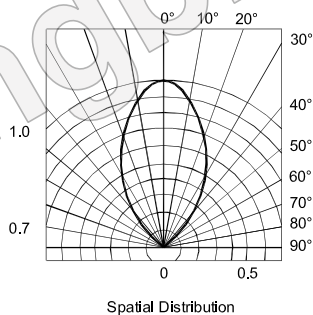
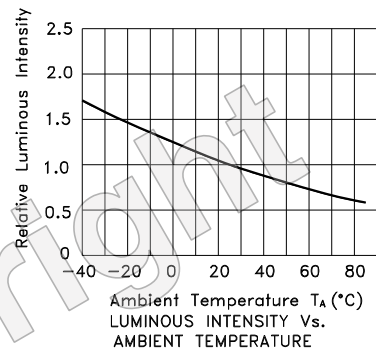
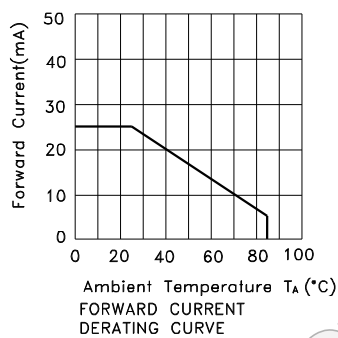
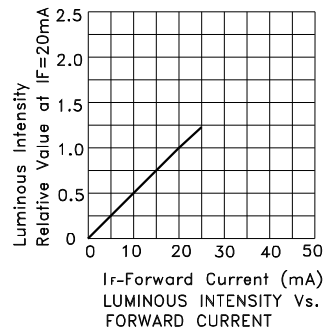
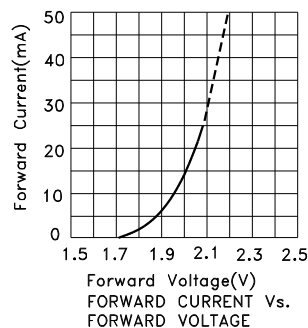


LUMINOUS INTENSITY Vs.  
AMBIENT TEMPERATURE

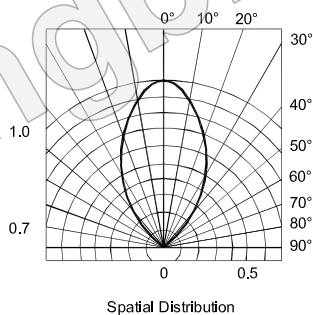
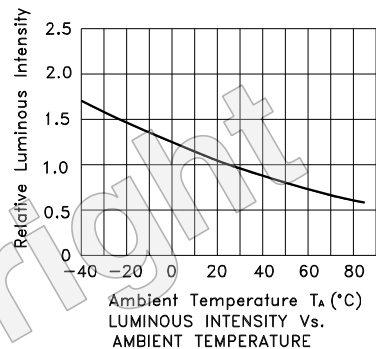
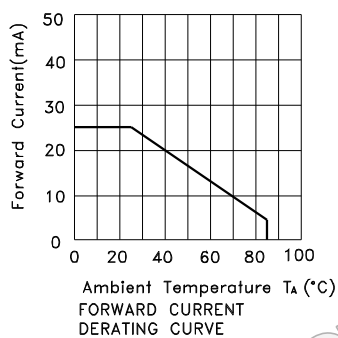
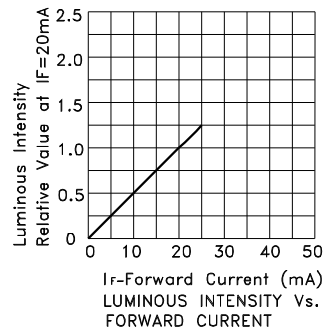
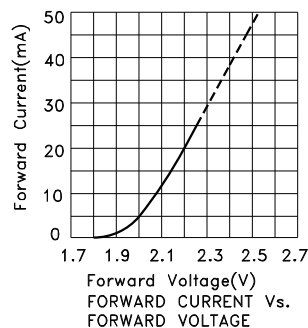


Spatial Distribution

## Pure Orange

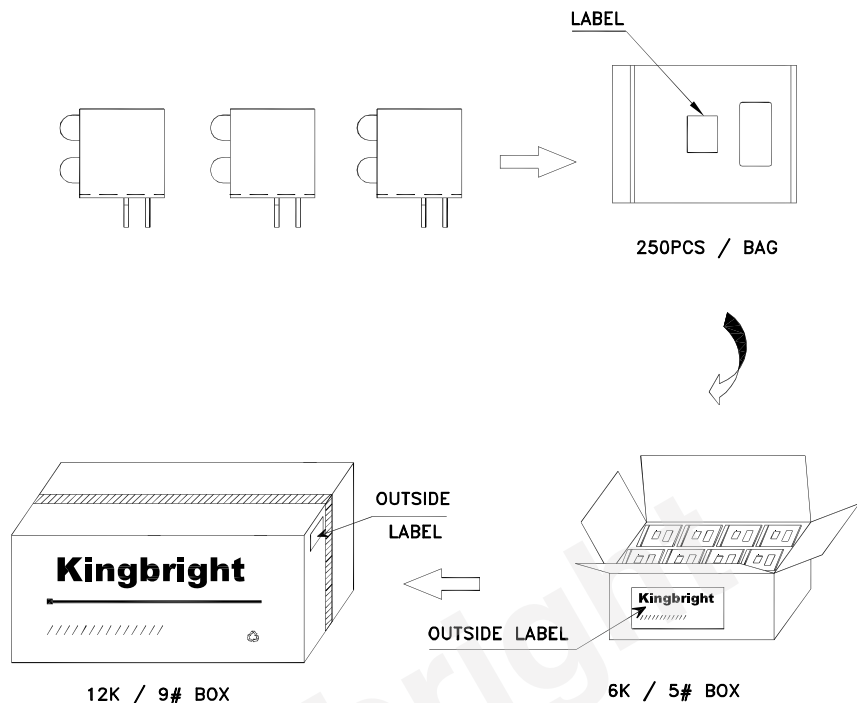



## Green



## PACKING & LABEL SPECIFICATIONS

L-130WCP/1MBN1XGW



<b>Kingbright</b>							
P/NO: L-130WCPxxx							
QTY: 250 pcs	Q.C. <table border="1"><tr><td>Q</td><td>C</td></tr><tr><td>XX</td><td>XX XX</td></tr><tr><td colspan="2">PASSED</td></tr></table>	Q	C	XX	XX XX	PASSED	
Q	C						
XX	XX XX						
PASSED							
S/N: XXXX							
CODE: XXX							
LOT NO:							
							
RoHS Compliant							

### Terms and conditions for the usage of this document

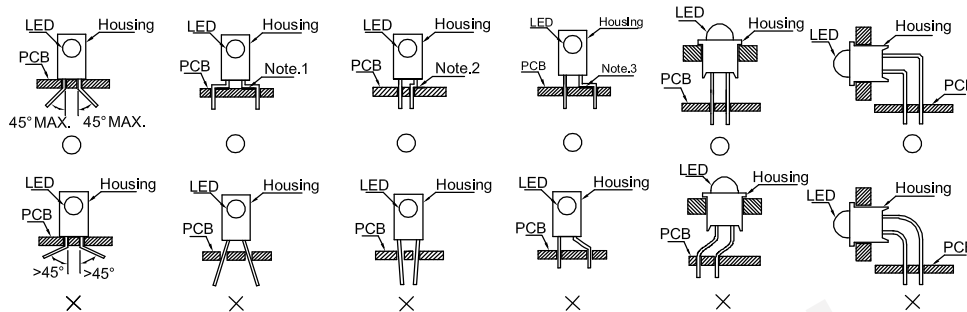
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## PRECAUTIONS

### 1. Storage conditions:

- Avoid continued exposure to the condensing moisture environment and keep the product away from rapid transitions in ambient temperature.
- LEDs should be stored with temperature  $\leq 30^{\circ}\text{C}$  and relative humidity  $< 60\%$ .
- Product in the original sealed package is recommended to be assembled within 72 hours of opening. Product in opened package for more than a week should be baked for 30 (+10/-0) hours at  $85 \sim 100^{\circ}\text{C}$ .

### 2. The lead pitch of the LED must match the pitch of the mounting holes on the PCB during component placement. Lead-forming may be required to insure the lead pitch matches the hole pitch. Refer to the figure below for proper lead forming procedures.



"○" Correct mounting method "X" Incorrect mounting method

Note 1-3: Do not route PCB trace in the contact area between the leadframe and the PCB to prevent short-circuits.

### 3. During soldering, component covers and holders should leave clearance to avoid placing damaging stress on the LED during soldering.

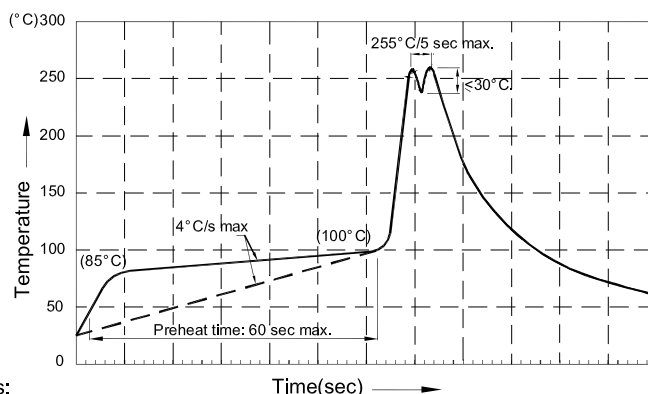


### 4. The tip of the soldering iron should never touch the lens epoxy.

### 5. Through-hole LEDs are incompatible with reflow soldering.

### 6. If the LED will undergo multiple soldering passes or face other processes where the part may be subjected to intense heat, please check with Kingbright for compatibility.

### 7. Recommended Wave Soldering Profiles:



Notes:

- Recommend pre-heat temperature of  $105^{\circ}\text{C}$  or less (as measured with a thermocouple attached to the LED pins) prior to immersion in the solder wave with a maximum solder bath temperature of  $260^{\circ}\text{C}$ .
- Peak wave soldering temperature between  $245^{\circ}\text{C} \sim 255^{\circ}\text{C}$  for 3 sec (5 sec max).
- Do not apply stress to the epoxy resin while the temperature is above  $85^{\circ}\text{C}$ .
- Fixtures should not incur stress on the component when mounting and during soldering process.
- SAC 305 solder alloy is recommended.
- No more than one wave soldering pass.