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Kingbright
WP130WCP/2GYW

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T-1 (3mm) BI-LEVEL LED INDICATOR

Part Number: WP130WCP/2GYW

Green
Yellow

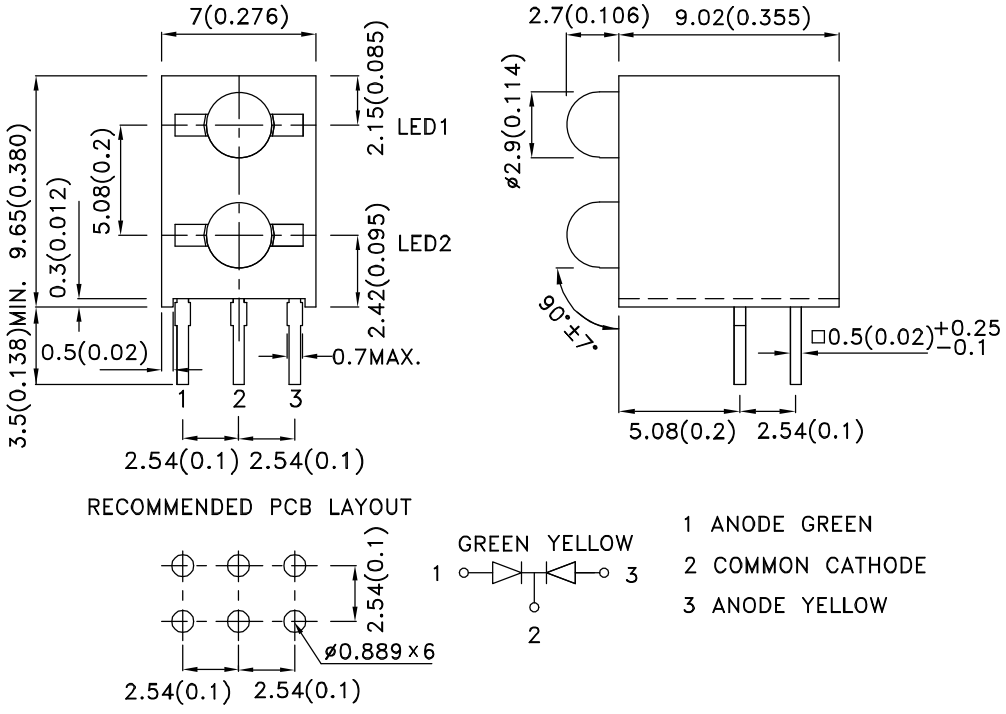
Features

- 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 Green source color devices are made with Gallium Phosphide Green Light Emitting Diode.
- The Yellow source color devices are made with Gallium Arsenide Phosphide on Gallium Phosphide Yellow Light Emitting Diode.

Package Dimensions



Notes:
1. All dimensions are in millimeters (inches).
2. Tolerance is ±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.

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Selection Guide

Part No.	Dice	Lens Type	Iv (mcd) [2] @ 20mA		Viewing Angle [1]
			Min.	Typ.	2θ1/2
WP130WCP/2GYW	Green (GaP)	White Diffused	18	40	60°
	Yellow (GaAsP/GaP)		10	20	

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%.
3. Luminous intensity value is traceable to the CIE127-2007 compliant national standards.

Electrical / Optical Characteristics at TA=25°C

Symbol	Parameter	Device	Typ.	Max.	Units	Test Conditions
λpeak	Peak Wavelength	Green Yellow	565 590		nm	I_F=20mA
λD [1]	Dominant Wavelength	Green Yellow	568 588		nm	I_F=20mA
Δλ1/2	Spectral Line Half-width	Green Yellow	30 35		nm	I_F=20mA
C	Capacitance	Green Yellow	15 20		pF	V_F=0V;f=1MHz
V_F [2]	Forward Voltage	Green Yellow	2.2 2.1	2.5 2.5	V	I_F=20mA
I_R	Reverse Current	Green Yellow		10 10	uA	V_R = 5V

Notes:
1. Wavelength: +/-1nm.
2. Forward Voltage: +/-0.1V.
3. Wavelength value is traceable to the CIE127-2007 compliant national 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	Green	Yellow	Units
Power dissipation	62.5	75	mW
DC Forward Current	25	30	mA
Peak Forward Current [1]	140	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.

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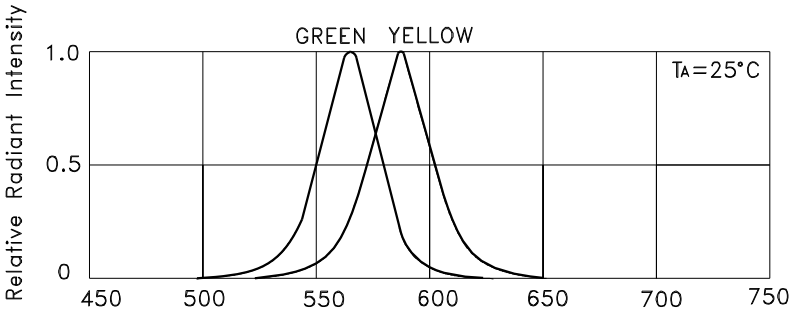
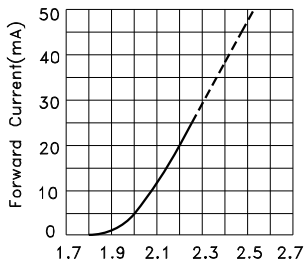
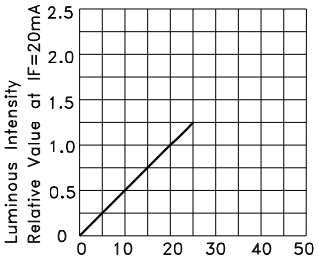


RELATIVE INTENSITY Vs. WAVELENGTH

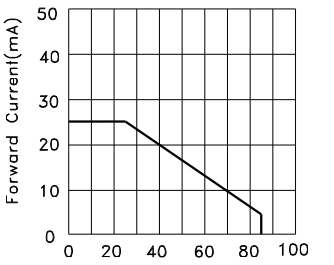
WP130WCP/2GYW
Green



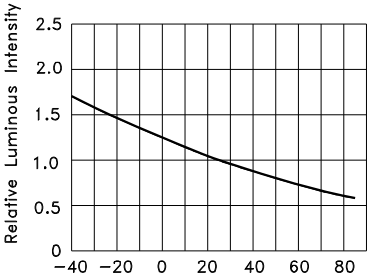
FORWARD CURRENT Vs.
FORWARD VOLTAGE



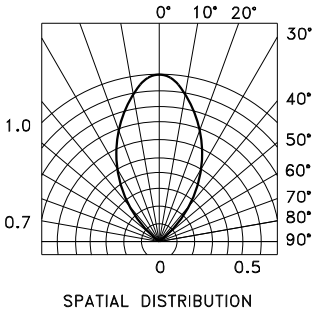
LUMINOUS INTENSITY Vs.
FORWARD CURRENT



FORWARD CURRENT
DERATING CURVE



LUMINOUS INTENSITY Vs.
AMBIENT TEMPERATURE



SPATIAL DISTRIBUTION

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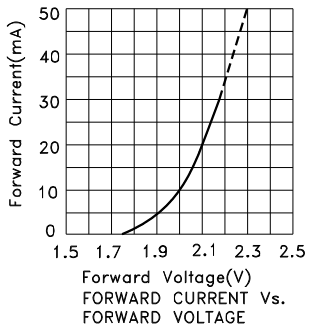
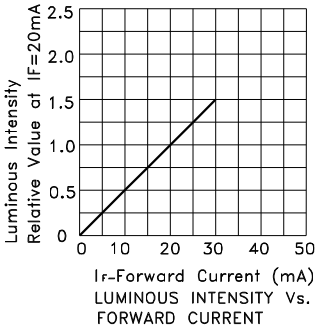
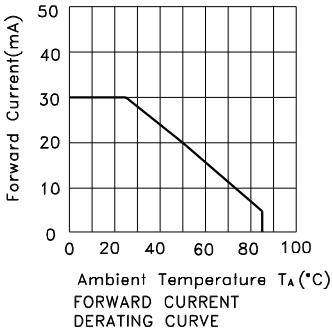
Yellow



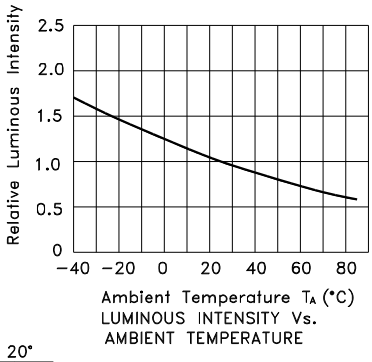
FORWARD CURRENT Vs.
FORWARD VOLTAGE



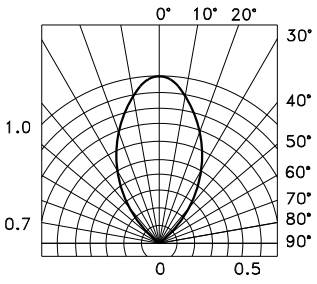
LUMINOUS INTENSITY Vs.
FORWARD CURRENT



FORWARD CURRENT
DERATING CURVE



LUMINOUS INTENSITY Vs.
AMBIENT TEMPERATURE



SPATIAL DISTRIBUTION

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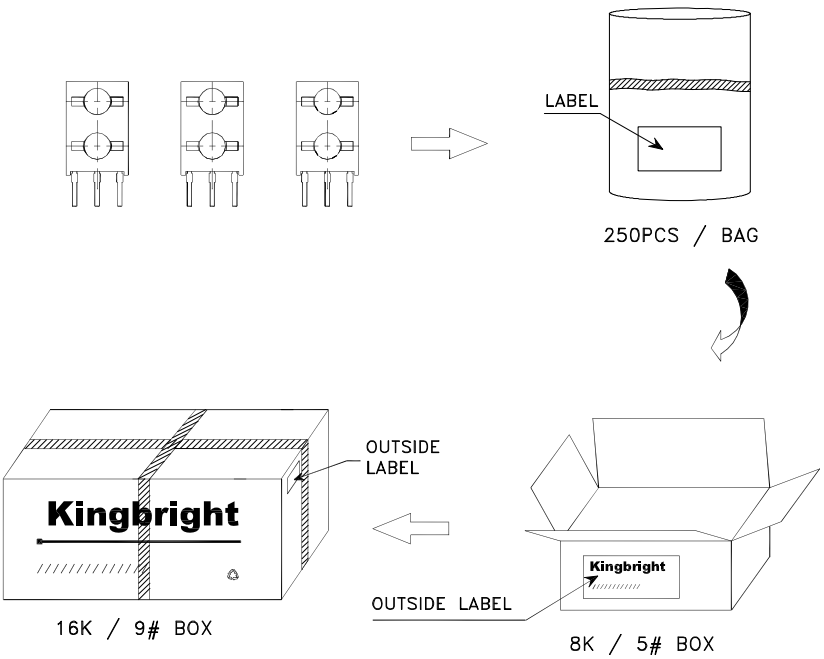
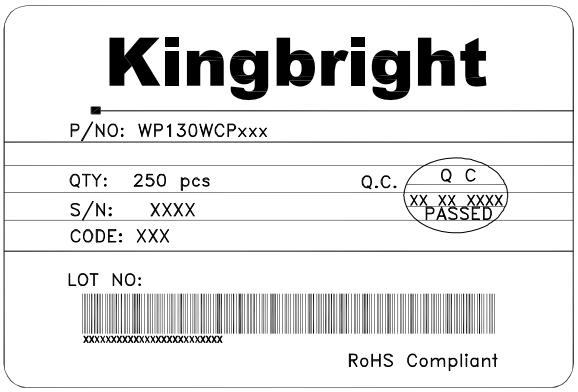
PACKING & LABEL SPECIFICATIONS **WP130WCP/2GYW**





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PRECAUTIONS

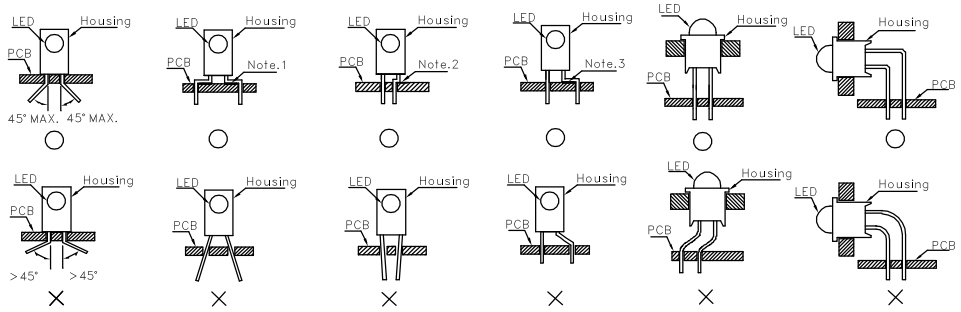
1. Storage conditions:

   a. Avoid continued exposure to the condensing moisture environment and keep the product away from rapid transitions in ambient temperature.

   b. LEDs should be stored with temperature ≦ 30°C and relative humidity <60%.

   c. 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 ~ 100°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.

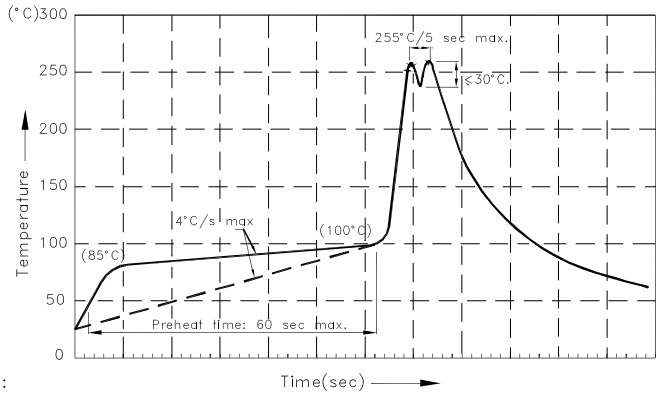


"○" Correct mounting method "×" Incorrect mounting method

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:

1. Recommend pre-heat temperature of 105°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°C
2. Peak wave soldering temperature between 245°C ~ 255°C for 3 sec (5 sec max).
3. Do not apply stress to the epoxy resin while the temperature is above 85°C.
4. Fixtures should not incur stress on the component when mounting and during soldering process.
5. SAC 305 solder alloy is recommended.
6. No more than one wave soldering pass.