

5mm ROUND LED LAMP

Part Number: WP9294ZGC/G

ATTENTION OBSERVE PRECAUTIONS FOR HANDLING

ELECTROSTATIC DISCHARGE SENSITIVE DEVICES



Features

- High luminous emission.
- Low power consumption.
- General purpose leads.
- Reliable and rugged.
- Long life solid state reliability.
- RoHS compliant.

Description

The Green source color devices are made with InGaN Light Emitting Diode.

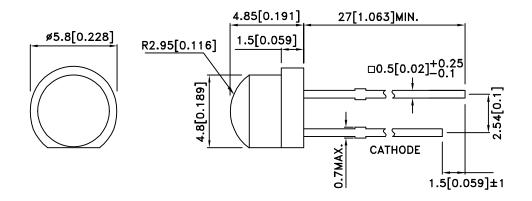
Green

Static electricity and surge damage the LEDS.

It is recommended to use a wrist band or anti-electrostatic glove when handling the LEDs.

All devices, equipment and machinery must be electrically grounded.

Package Dimensions



- 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.

SPEC NO: DSAJ8791 **REV NO: V.4B DATE: FEB/17/2013** PAGE: 1 OF 6 APPROVED: WYNEC CHECKED: Allen Liu DRAWN: Y.Liu ERP: 1101026815





Selection Guide

Part No.	Dice	Lens Type	lv (mcd) [2] @ 20mA		Viewing Angle [1]
			Min.	Тур.	201/2
WP9294ZGC/G	Green (InGaN)	Water Clear	1900	2600	60°

- 1. 01/2 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	Тур.	Max.	Units	Test Conditions
λpeak	Peak Wavelength	Green	520		nm	IF=20mA
λD [1]	Dominant Wavelength	Green	525		nm	IF=20mA
Δλ1/2	Spectral Line Half-width	Green	35		nm	IF=20mA
С	Capacitance	Green	100		pF	VF=0V;f=1MHz
VF [2]	Forward Voltage	Green	3.2	4	V	IF=20mA
lR	Reverse Current	Green		50	uA	VR = 5V

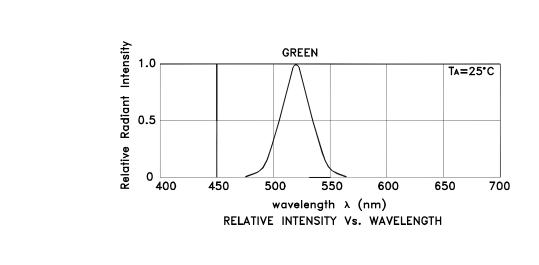
- 1.Wavelength: +/-1nm.
- 2. Forward Voltage: +/-0.1V.
- 3. Wavelength value is traceable to the CIE127-2007 compliant national standards.

Absolute Maximum Ratings at TA=25°C

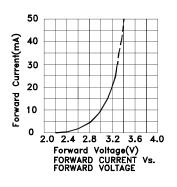
Parameter	Green	Units		
Power dissipation	120	mW		
DC Forward Current	30	mA		
Peak Forward Current [1]	100	mA		
Reverse Voltage	5	V		
Operating/Storage Temperature	-40°C To +85°C	-40°C To +85°C		
Lead Solder Temperature [2]	260°C For 3 Seconds			
Lead Solder Temperature [3]	260°C For 5 Seconds			

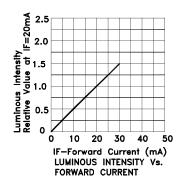
- Notes: 1. 1/10 Duty Cycle, 0.1ms Pulse Width. 2. 2mm below package base. 3. 5mm below package base.

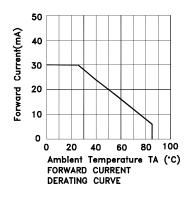
SPEC NO: DSAJ8791 **REV NO: V.4B DATE: FEB/17/2013** PAGE: 2 OF 6 APPROVED: WYNEC **CHECKED: Allen Liu** DRAWN: Y.Liu ERP: 1101026815

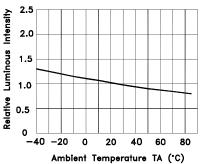


Green WP9294ZGC/G

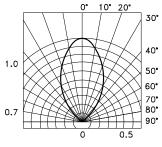






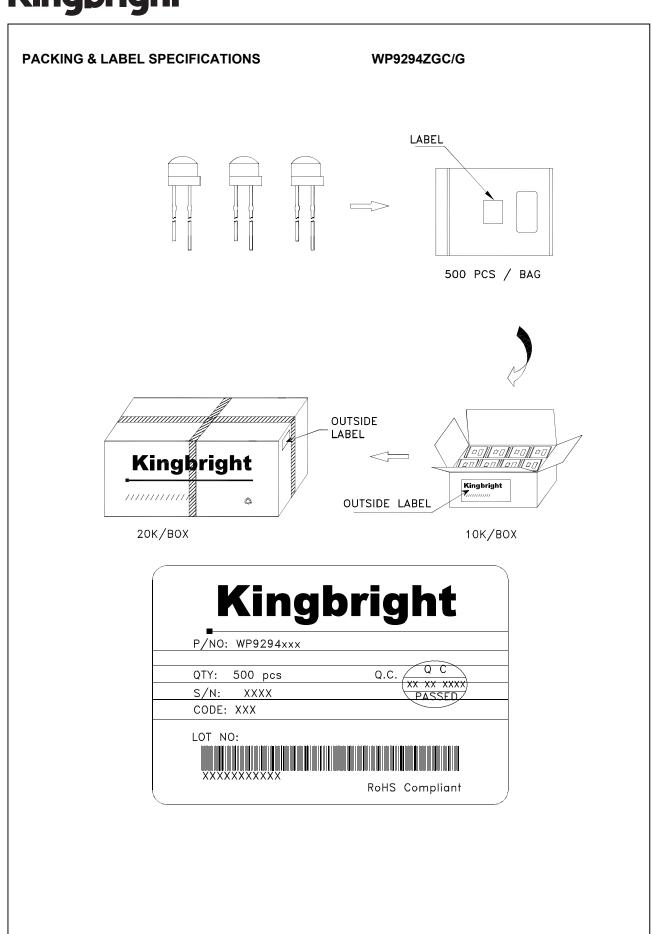


LUMINOUS INTENSITY Vs.
AMBIENT TEMPERATURE



SPATIAL DISTRIBUTION

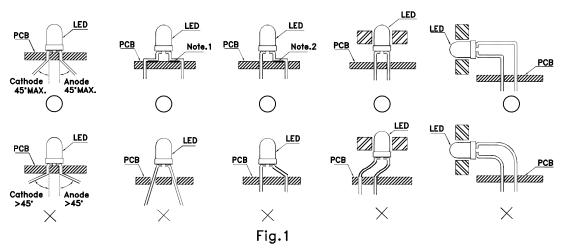
SPEC NO: DSAJ8791 REV NO: V.4B DATE: FEB/17/2013 PAGE: 3 OF 6
APPROVED: WYNEC CHECKED: Allen Liu DRAWN: Y.Liu ERP: 1101026815



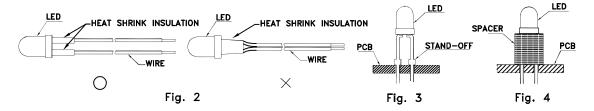
SPEC NO: DSAJ8791 APPROVED: WYNEC REV NO: V.4B CHECKED: Allen Liu DATE: FEB/17/2013 DRAWN: Y.Liu PAGE: 4 OF 6 ERP: 1101026815

PRECAUTIONS

1. 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. (Fig. 1)



- " \bigcirc " Correct mounting method "imes" Incorrect mounting method
- 2. When soldering wire to the LED, use individual heat—shrink tubing to insulate the exposed leads to prevent accidental contact short—circuit. (Fig.2)
- 3. Use stand—offs (Fig.3) or spacers (Fig.4) to securely position the LED above the PCB.

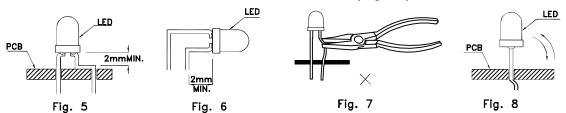


- 4. Maintain a minimum of 2mm clearance between the base of the LED lens and the first lead bend. (Fig. 5 and 6)
- 5. During lead forming, use tools or jigs to hold the leads securely so that the bending force will not be transmitted to the LED lens and its internal structures. Do not perform lead forming once the component has been mounted onto the PCB. (Fig. 7)

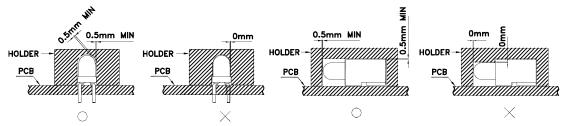
SPEC NO: DSAJ8791 APPROVED: WYNEC REV NO: V.4B
CHECKED: Allen Liu

DATE: FEB/17/2013 DRAWN: Y.Liu PAGE: 5 OF 6 ERP: 1101026815

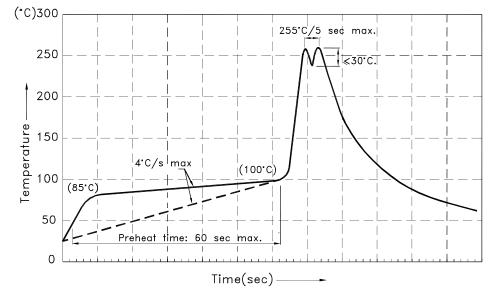
6. Do not bend the leads more than twice. (Fig. 8)



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



- 8. The tip of the soldering iron should never touch the lens epoxy.
- 9. Through—hole LEDs are incompatible with reflow soldering.
- 10. 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.
- 11. 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 \sim 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.

All design applications should refer to Kingbright application notes available at http://www.KingbrightUSA.com/ApplicationNotes

SPEC NO: DSAJ8791 REV NO: V.4B DATE: FEB/17/2013 PAGE: 6 OF 6

APPROVED: WYNEC CHECKED: Allen Liu DRAWN: Y.Liu ERP: 1101026815