

### 2x5mm RECTANGULAR LED LAMP

Part Number: WP113GDT Green

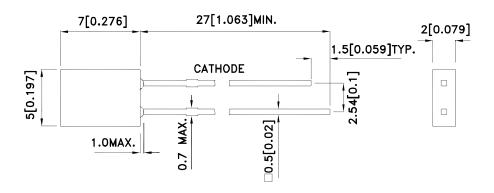
#### **Features**

- Low power consumption.
- Reliable and rugged.
- Excellent uniformity of light output.
- Suitable for level indicator.
- Long life solid state reliability.
- RoHS compliant.

#### Description

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

### **Package Dimensions**



- 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.

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### **Selection Guide**

Part No.	Dice	Lens Type	lv (mcd) [2] @ 10mA		Viewing Angle [1]
		,	Min.	Тур.	201/2
WP113GDT	Green (GaP)	Green Diffused	2	6	110°

- 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%.

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

Symbol	Parameter	Device	Тур.	Max.	Units	Test Conditions
λpeak	Peak Wavelength	Green	565		nm	IF=20mA
λD [1]	Dominant Wavelength	Green	568		nm	IF=20mA
Δλ1/2	Spectral Line Half-width	Green	30		nm	I=20mA
С	Capacitance	Green	15		pF	VF=0V;f=1MHz
VF [2]	Forward Voltage	Green	2.2	2.5	V	I=20mA
IR	Reverse Current	Green		10	uA	VR = 5V

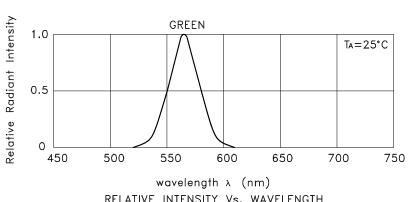
- 1.Wavelength: +/-1nm. 2. Forward Voltage: +/-0.1V.

### Absolute Maximum Ratings at TA=25°C

Parameter	Green	Units		
Power dissipation	62.5	mW		
DC Forward Current	25	mA		
Peak Forward Current [1]	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			

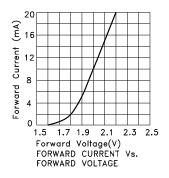
- 1. 1/10 Duty Cycle, 0.1ms Pulse Width.
  2. 2mm below package base.
  3. 5mm below package base.

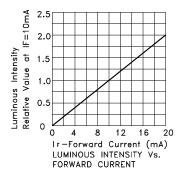
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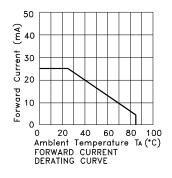


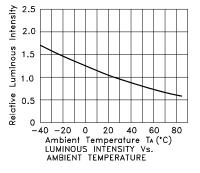
RELATIVE INTENSITY Vs. WAVELENGTH

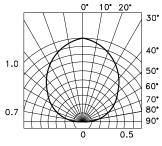
#### Green **WP113GDT**









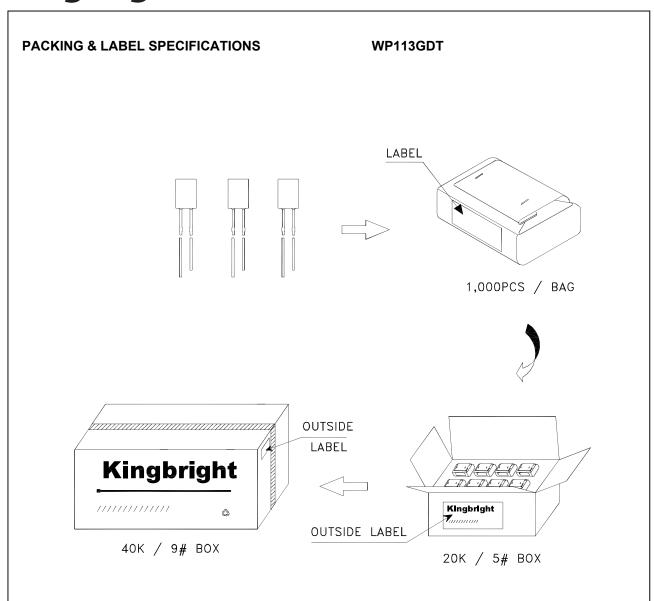


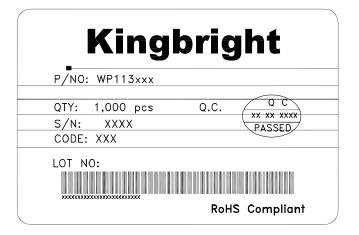
SPATIAL DISTRIBUTION

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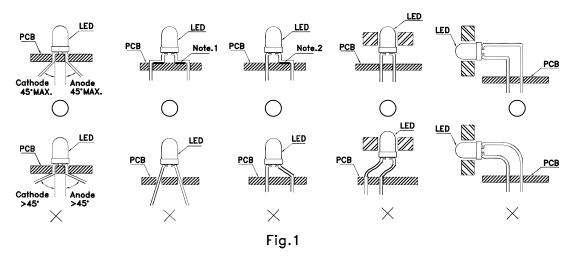




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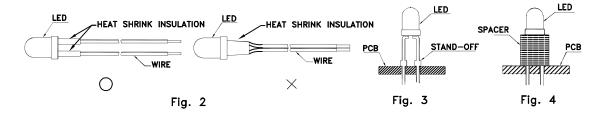
#### **PRECAUTIONS**

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

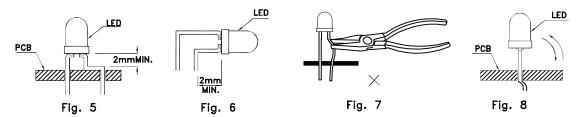
- 2. When soldering wire to the LED, use individual heat—shrink tubing to insulate the exposed leads to prevent accidental contact short—circuit. (Fig.2)
- 3.Use stand—offs (Fig.3) or spacers (Fig.4) to securely position the LED above the PCB.



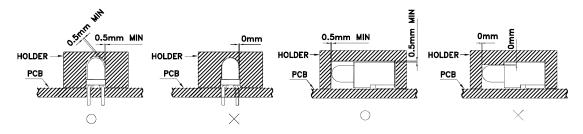
- 4. Maintain a minimum of 2mm clearance between the base of the LED lens and the first lead bend. (Fig. 5 and 6)
- 5. During lead forming, use tools or jigs to hold the leads securely so that the bending force will not be transmitted to the LED lens and its internal structures. Do not perform lead forming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

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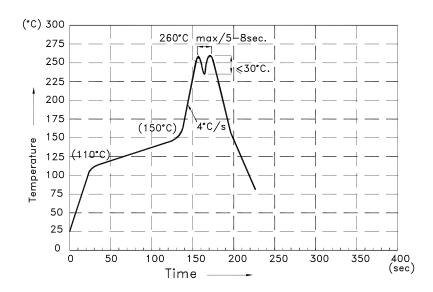
6. Do not bend the leads more than twice. (Fig. 8)



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 Profile for Kingbright Thru-Hole Products



#### NOTES:

- 1.Recommend the wave temperature 245°C $\sim$ 260°C.The maximum soldering temperature should be less than 260°C.
- $2.\mbox{Do}$  not apply stress on epoxy resins when temperature is over  $85\mbox{^\circ}\mbox{C}.$
- 3. The soldering profile apply to the lead free soldering (Sn/Cu/Ag alloy).
- 4.During wave soldering, the PCB top-surface temperature should be kept below 105°C.

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5.No more than once.

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