

### 2x5mm RECTANGULAR LED LAMP

Part Number: L-113YDT Yellow

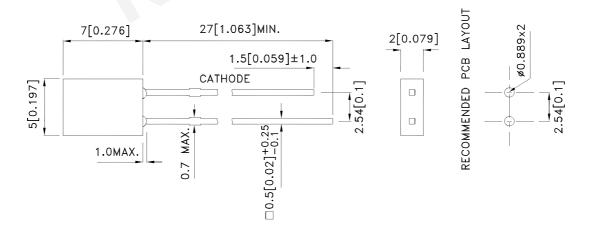
### **Features**

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

# **Description**

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

## **Package Dimensions**



#### Notes:

- All dimensions are in millimeters (inches).
   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: DSAA7784 APPROVED: WYNEC** 

**REV NO: V.11B CHECKED: Allen Liu** 

DATE: NOV/06/2014 DRAWN: P.Cheng



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### **Selection Guide**

Part No.	Dice	Lens Type	lv (mcd) [2] @ 10mA		Viewing Angle [1]
		-	Min.	Тур.	201/2
L-113YDT	Yellow (GaAsP/GaP)	Yellow Diffused	1.2	4	110°

#### Notes:

- θ1/2 is the angle from optical centerline where the luminous intensity is 1/2 of the optical peak value.
   Luminous intensity/ luminous Flux: +/-15%.
   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	Yellow	590		nm	IF=20mA
λD [1]	Dominant Wavelength	Yellow	588		nm	IF=20mA
Δλ1/2	Spectral Line Half-width	Yellow	35		nm	IF=20mA
С	Capacitance	Yellow	20		pF	VF=0V;f=1MHz
VF [2]	Forward Voltage	Yellow	2.1	2.5	V	IF=20mA
lr	Reverse Current	Yellow		10	uA	VR = 5V

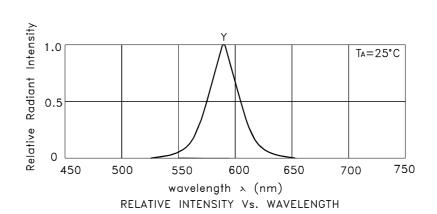
- Notes:
  1.Wavelength: +/-1nm.
  2. Forward Voltage: +/-0.1V.
  3. Wavelength value is traceable to the CIE127-2007 compliant national standards.
- 4. Excess driving current and/or operating temperature higher than recommended conditions may result in severe light degradation or premature failure.

## Absolute Maximum Ratings at TA=25°C

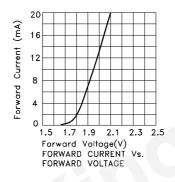
Parameter	Yellow	Units	
Power dissipation	75	mW	
DC Forward Current	30	mA	
Peak Forward Current [1]	140	mA	
Reverse Voltage	5	V	
Operating/Storage Temperature	-40°C To +85°C		
Lead Solder Temperature [2]	260°C For 3 Seconds		
Lead Solder Temperature [3]	260°C For 5 Seconds		

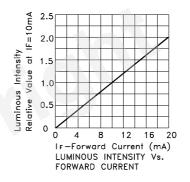
- 1. 1/10 Duty Cycle, 0.1ms Pulse Width.
- 2. 2mm below package base.
   5mm below package base.

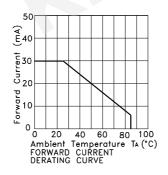
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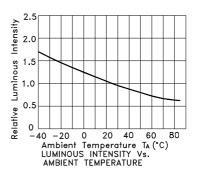


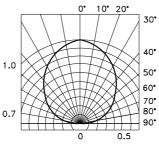
Yellow L-113YDT







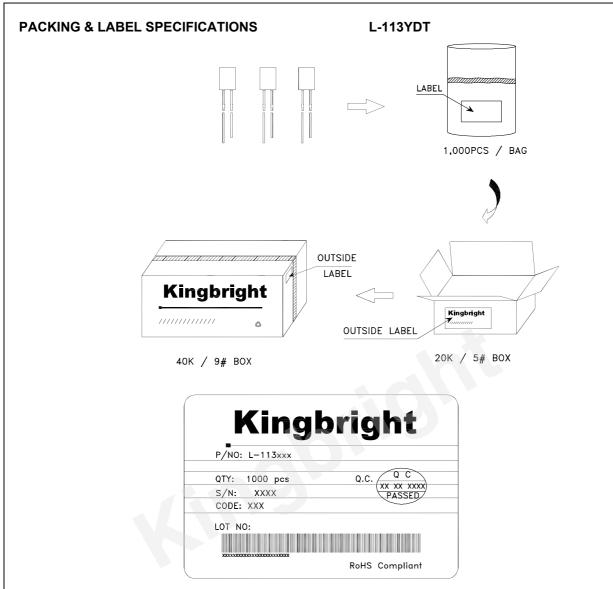




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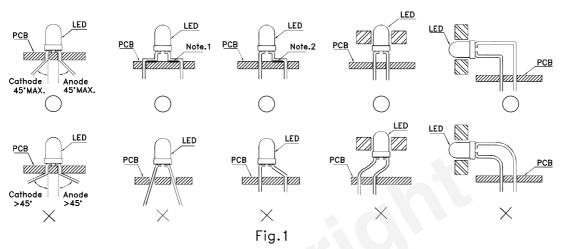
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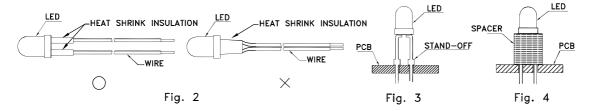
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### **PRECAUTIONS**

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)



- "( )" 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 3mm 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)

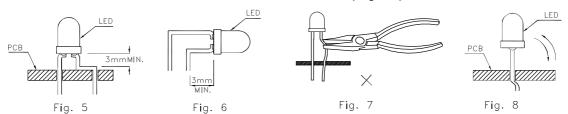
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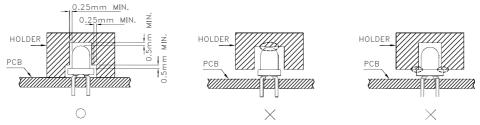
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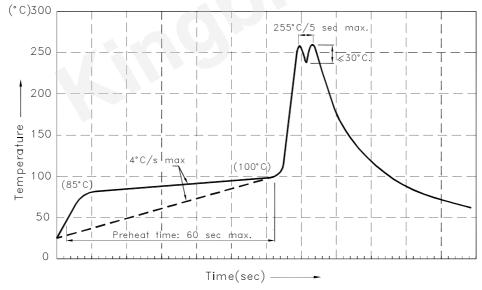
6. Do not bend the leads more than twice. (Fig. 8)



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 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.

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