

## FEATURES

Highly Luminous Ultra Bright RED LED lamp

AlInGaP/AlN Technology Chip

Dominate Wavelength 625 nm

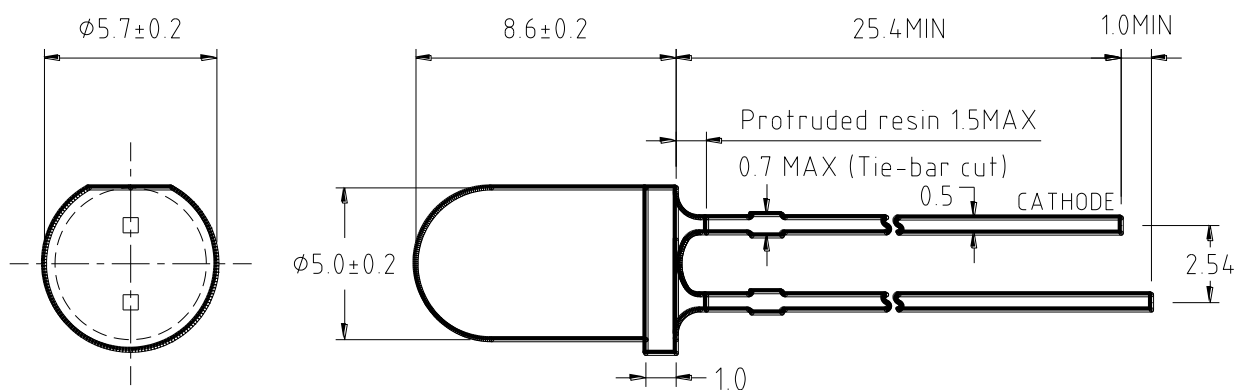
Water Clear Epoxy Package

Lens Size 5mm

Viewing Angles  $2\theta \frac{1}{2} = 15^\circ$  (Reference)

Stand-Off Options

## Package Dimensions



### Notes:

1. All dimensions are in millimeters (inches).
2. Tolerance  $\pm 0.25$  (0.01") mm unless otherwise noted.
3. Protruded resin under flange is 1.0mm (0.04") max.
4. Lead spacing is measured where the leads emerge from the package
5. Specifications are subject to change without notice.

## Delivery

- Bulk, 500 pieces per bag standard
- Ammo or Reel available upon request



Electrostatic Sensitive Devices

## Absolute Maximum Ratings at Ta = 25°C

Forward Voltage	$V_f$	$2.1 \pm 0.3$ V
Continuous Forward Current	$I_f$	50 mA
Power Dissipation	$P_d$	120 mW
Peak Forward Current	$I_{fp}$	100 mA
Derating Factor		0.40 mA/ °C
Reverse Voltage	$V_r$	5 V
Operating Temperature	$T_{op}$	-35 ~ +85°C
Storage Temperature	$T_{stg}$	-40 ~ +100°C
Soldering Temperature	$T_{sd}$	260°C / 5 Sec

Remarks: Duty Ratio = 1/10, Pulse Width = 0.1ms

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

Parameter	Symbol	Min	Typ	Max	Unit	Test Condition
Forward Voltage	$V_f$	1.9	2.1	2.4	V	$I_f = 20$ mA
Dominant Wavelength	$\lambda_d$		625		nm	$I_f = 20$ mA
Peak Wavelength	$\lambda_p$		635		nm	$I_f = 20$ mA
Luminous Intensity	$I_v$	9300	16000	21000	mcd	$I_f = 20$ mA
Spectrum Radiation Bandwidth	$\Delta\lambda$		15		nm	$I_f = 20$ mA
Reverse Current	$I_r$			50	$\mu$ A	$V_R = 5$ V

## $I_v$ Ranks / Luminous Intensity Bin Limits ( $I_f=20$ mA)

Bin Name	Min	Max
W	5500	7200
X	7200	9300
Y	9300	12000

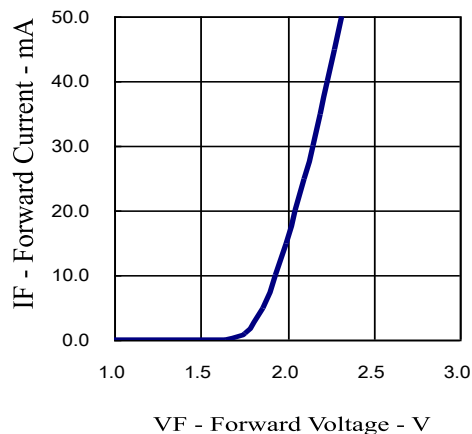
$I_v$  Ranks Tolerance of each minimum and maximum is  $\pm 15\%$

## Color /Wave Length Ranks ( $I_f=20$ mA)

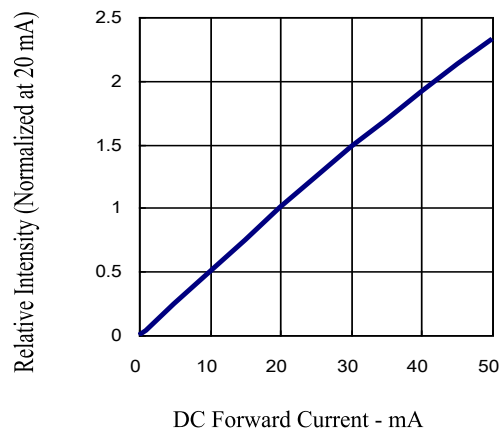
Bin Name	Wave Length (nm)
2	620~625
3	625~630

## Electrical / Optical Characteristics Diagram at Ta = 25°C

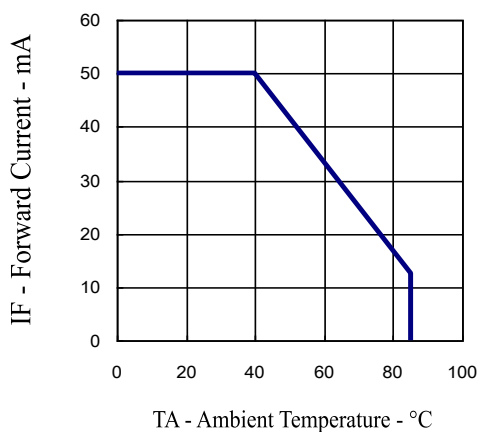
Forward Current vs. Forward Voltage



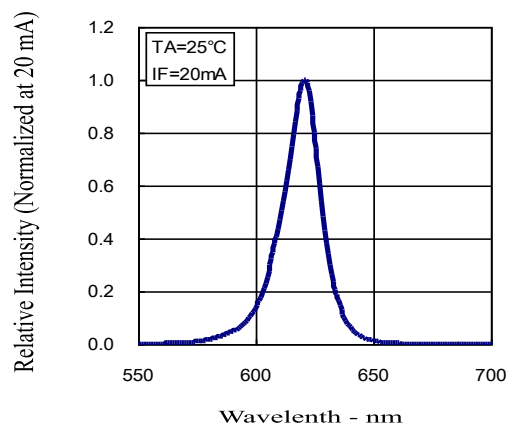
Relative Intensity vs. Forward Current



Forward Current vs. Ambient Temperature



Relative Intensity vs. Wavelength



### Notes:

1. One delivery will include up to three color ranks and two luminous intensity ranks of the products. The quantity-ratio of the ranks is decided by Yoldal.
2. All data showing in this product specification are measured by proper experiment conditions and instruments. However, those data may be different due to variations of testing instruments and conditions.

## Soldering Conditions - Lamp Type LED

- Solder the LED no closer than 3mm from the base of the epoxy bulb. Soldering beyond the base of the tie bar is recommended
- Recommended soldering conditions

Dip Soldering	
<b>Pre-Heat</b>	100°C Max.
<b>Pre-Heat Time</b>	60 sec. Max.
<b>Solder Bath Temperature</b>	260°C Max.
<b>Dipping Time</b>	5 sec. Max.
<b>Dipping Position</b>	No lower than 3mm from the base of the epoxy bulb.

Hand Soldering		
	5Ø Series	Others (Including Lead-Free Solder)
<b>Temperature</b>	300°C Max.	350°C Max.
<b>Soldering time</b>	3 sec. Max.	3 sec. Max.
<b>Position</b>	No closer than 3mm from the base of the epoxy bulb.	No closer than 3mm from the base of the epoxy bulb.

- Do not apply any stress to the lead, particularly when heated
- The LEDs must not be repositioned after soldering
- After soldering the LEDs, the epoxy bulb should be protected from mechanical shock or vibration until the LEDs return to room temperature.
- Direct soldering onto a PC board should be avoided. Mechanical stress to the resin may be caused by the PC board warping or from the clinching and cutting of the leadframes. When it is absolutely necessary, the LEDs may be mounted in this fashion, but, the User will assume responsibility for any problems. Direct soldering should only be done after testing has confirmed that no damage, such as wire bond failure or resin deterioration, will occur. YOLDAL's LEDs should not be soldered directly to double sided PC boards because the heat will deteriorate the epoxy resin.
- When it is necessary to clamp the LEDs to prevent soldering failure, it is important to minimize the mechanical stress on the LEDs.
- Cut the LED leadframes at room temperature. Cutting the leadframes at high temperatures may cause LED failure.