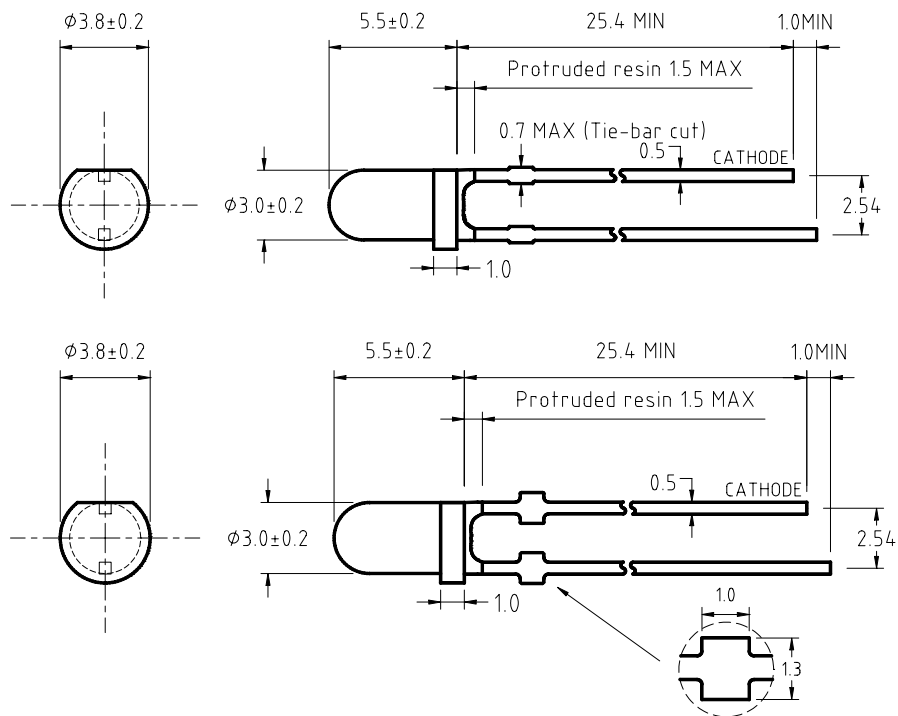


FEATURES

- High Luminous Output Golden White LED Lamp
- Chip Technology – InGaN
- Water Clear Epoxy Package
- Lens Size 3mm
- Viewing Angles $2\theta \frac{1}{2} = 23^\circ$ (Reference)
- Stand-Off Options

Package Dimensions



Notes:

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

Absolute Maximum Ratings at Ta = 25°C

Item	Symbol	Absolute Maximum Rating	Unit
DC Forward Current	I_F	30	mA
Peak Pulsed Forward Current	I_{FP}	100	mA
Reverse Voltage	V_R	5	V
Derating Factor		0.40	mA/°C
Power Dissipation	P_d	114	mW
Operating Temperature	T_{opr}	-30 ~ +85	°C
Storage Temperature	T_{stg}	-40 ~ +100	°C
Solder Dipping Temperature	T_{sld}	260 for 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	2.9	3.2	3.5	V	$I_f = 20$ mA
Luminous Intensity	I_v	7200		12000	mcd	$I_f = 20$ mA
Reverse Current	I_r			10	mA	$V_R = 5$ V

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

Bin Name	Min	Max
T	7200	9300
U	9300	12000

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

Color Ranks ($I_f = 20$ mA)

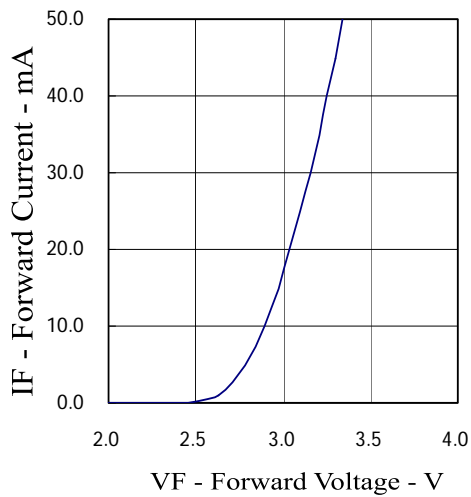
CIE	X	0.441	0.443	0.460	0.460
	Y	0.402	0.426	0.446	0.418

Notes:

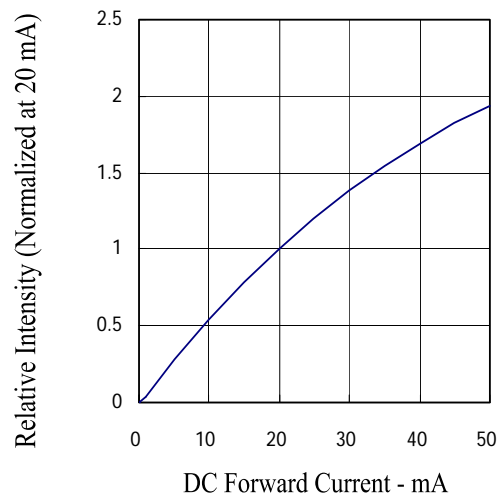
- One delivery will include up to three-color ranks and two luminous intensity ranks of the products. The quantity-ratio of the ranks is decided by Yoldal.
- All data showing in this product specification are measured by proper experiment conditions and instruments. However, those data may be different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

Electrical / Optical Characteristics Diagram at Ta = 25°C

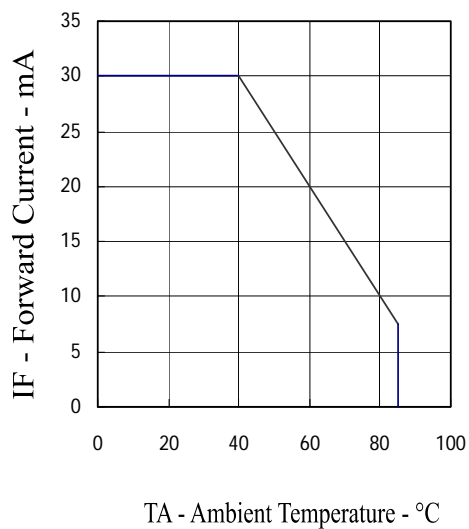
Forward Current vs. Forward Voltage



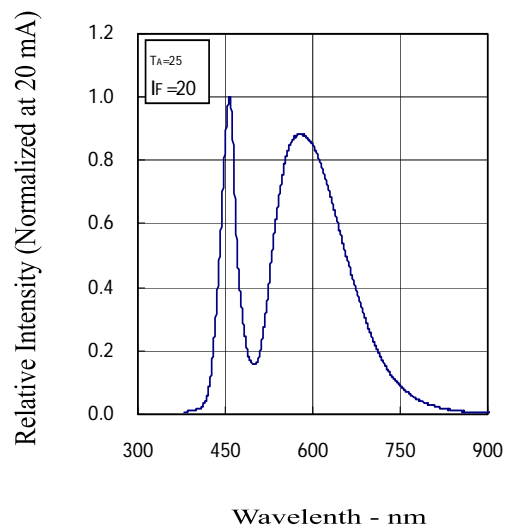
Relative Intensity vs. Forward Voltage



Forward Current vs. Ambient Temperature



Relative Intensity vs. Wavelength



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	
Pre-Heat	100 Max.
Pre-Heat Time	60 sec. Max.
Solder Bath Temperature	260 Max.
Dipping Time	5 sec. Max.
Dipping Position	No lower than 3mm from the base of the epoxy bulb.

Hand Soldering		
	3Ø Series	Others (Including Lead-Free Solder)
Temperature	300 Max.	350 Max.
Soldering time	3 sec. Max.	3 sec. Max.
Position	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.



Electrostatic Sensitive Devices