

# PRODUCT SPECIFICATION



**Part No.: WL-P3EP4242IR60-810**

**High Power LED**

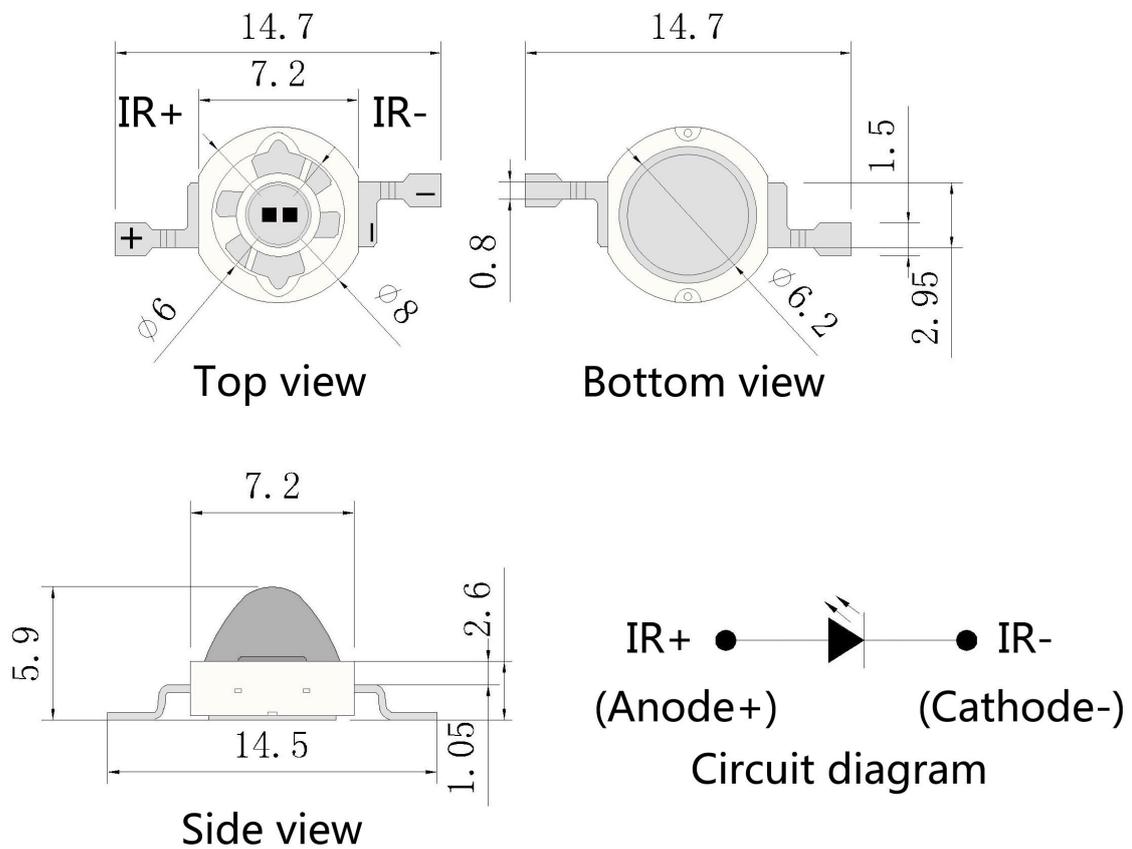
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## 1. Product Features

- High Brightness IR LED Round Package
- Viewing Angle 60 Degree
- Transparent Silicone
- Chip Material: AlGaInP
- RoHS Compliant

## 2. Dimensions



### Notes:

1. All dimensions are in millimeters.
2. Tolerance is  $\pm 0.1\text{mm}$  unless otherwise noted.



### 3. Absolute Maximum Rating @ Ta=25° C

Parameter	Symbol	Maximum Rating	Unit
Continuous Forward Current	IF	1000	mA
Peak Forward Current (1/10 Duty Cycle, 0.1ms Pulse Width)	IFp	1200	mA
Reverse Voltage	VR	5	V
Power Dissipation	PD	5	W
Electrostatic Discharge	ESD	1000	V
Operating Temperature Range	TOPR	-25°C to +80°C	
Storage Temperature Range	TSTG	-35°C to +100°C	
Lead Soldering Temperature	TSOL	260°C	

### 4. Optical Character @ Ta=25° C

Parameter	Symbol	Color	Min.	Typ.	Max.	Unit	Test Condition
Forward Voltage	VF	IR	1.6	1.8	2.0	V	IF=1000mA
Radiant Power	PO	IR	550	600	650	mW	IF=1000mA
Wavelength	Wlp	IR	800	805	810	nm	IF=1000mA
Reverse Current	IR		0		10	μA	VR=5V
Viewing Angle	2θ1/2				60	deg	IF=1000mA
Recommend Forward Current	IF(rec)	IR			1000	mA	

#### Notes:

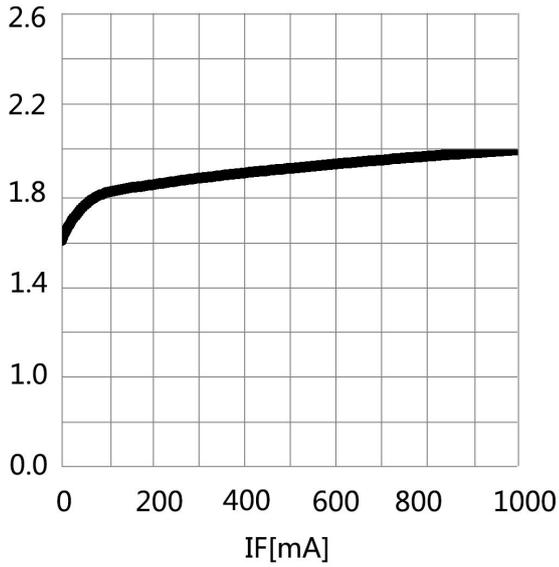
Measurement tolerance of forward voltage ±0.1V



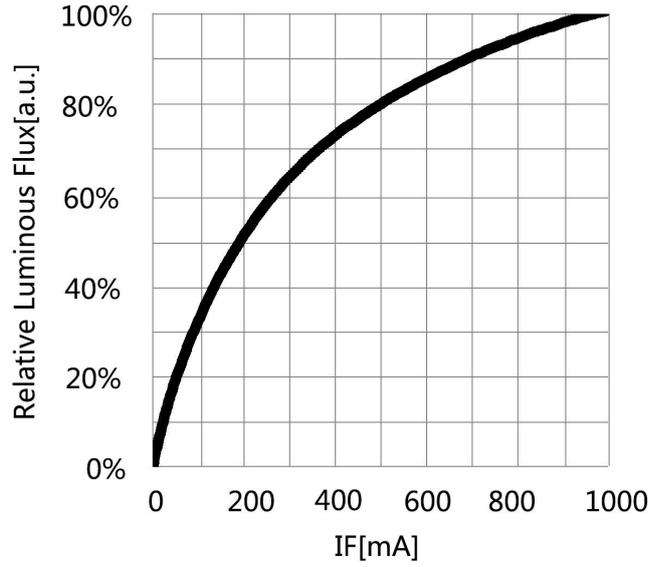
## 5. Optical Character Curves

( 25 ° Ambient Temperature Unless Otherwise Noted )

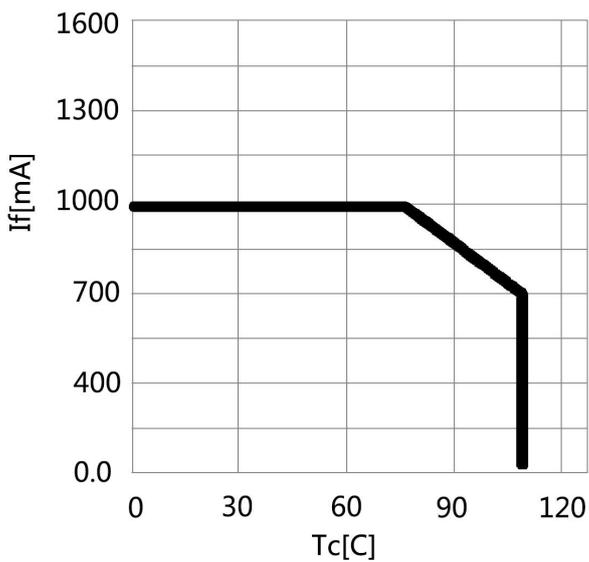
Forward Current vs. Forward Voltage  
Tc=25C



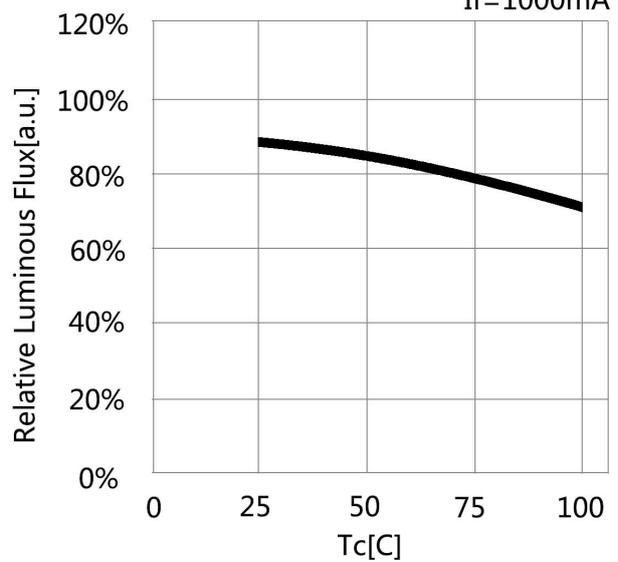
Forward Current vs. Relative Luminous Flux  
Tc=25C



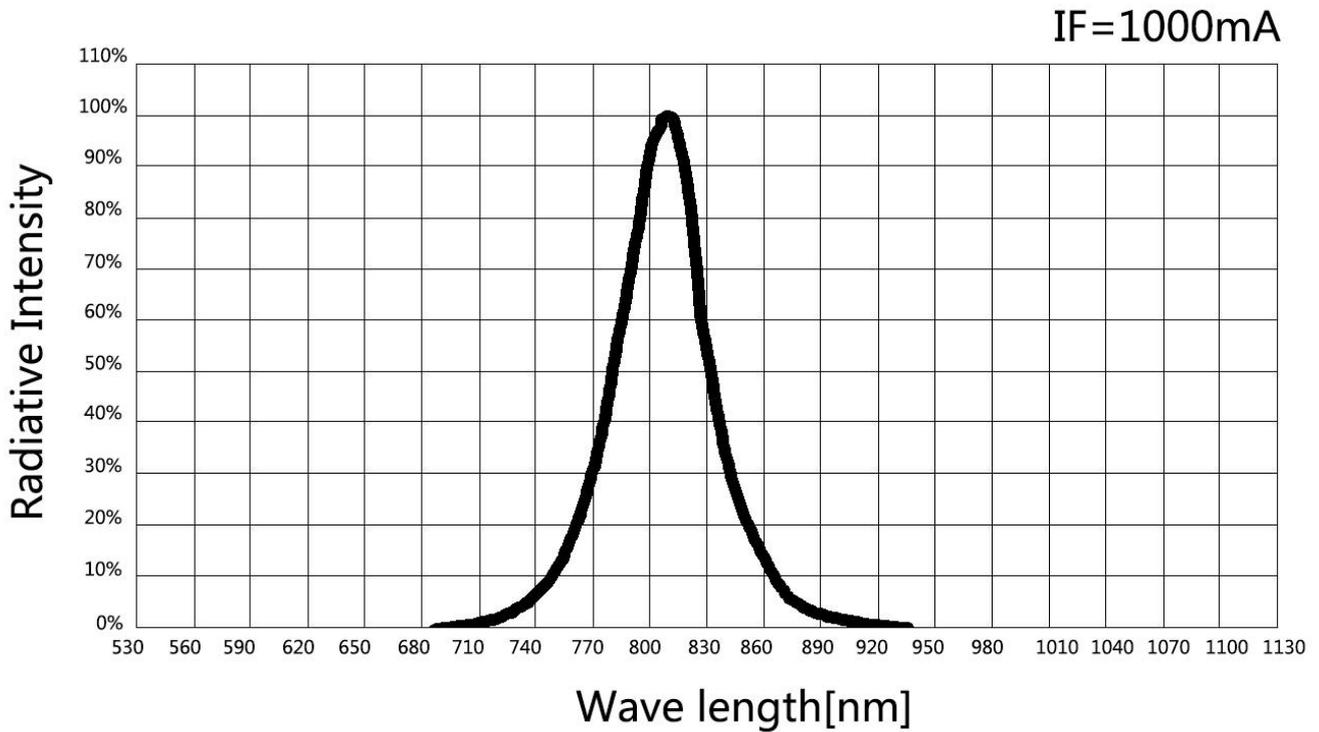
Temperature vs. Forward Voltage



Case Temperature vs. Relative Luminous Flux  
If=1000mA



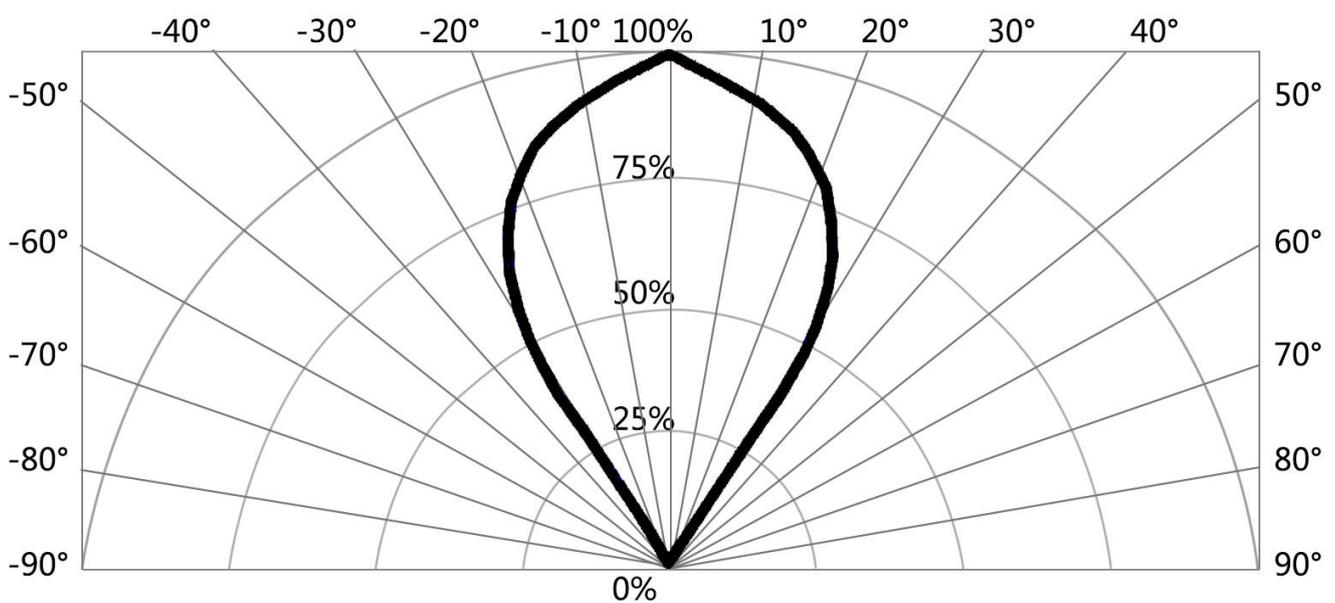
## 6. Spectrum Curves



## 7. Viewing Angle Curves

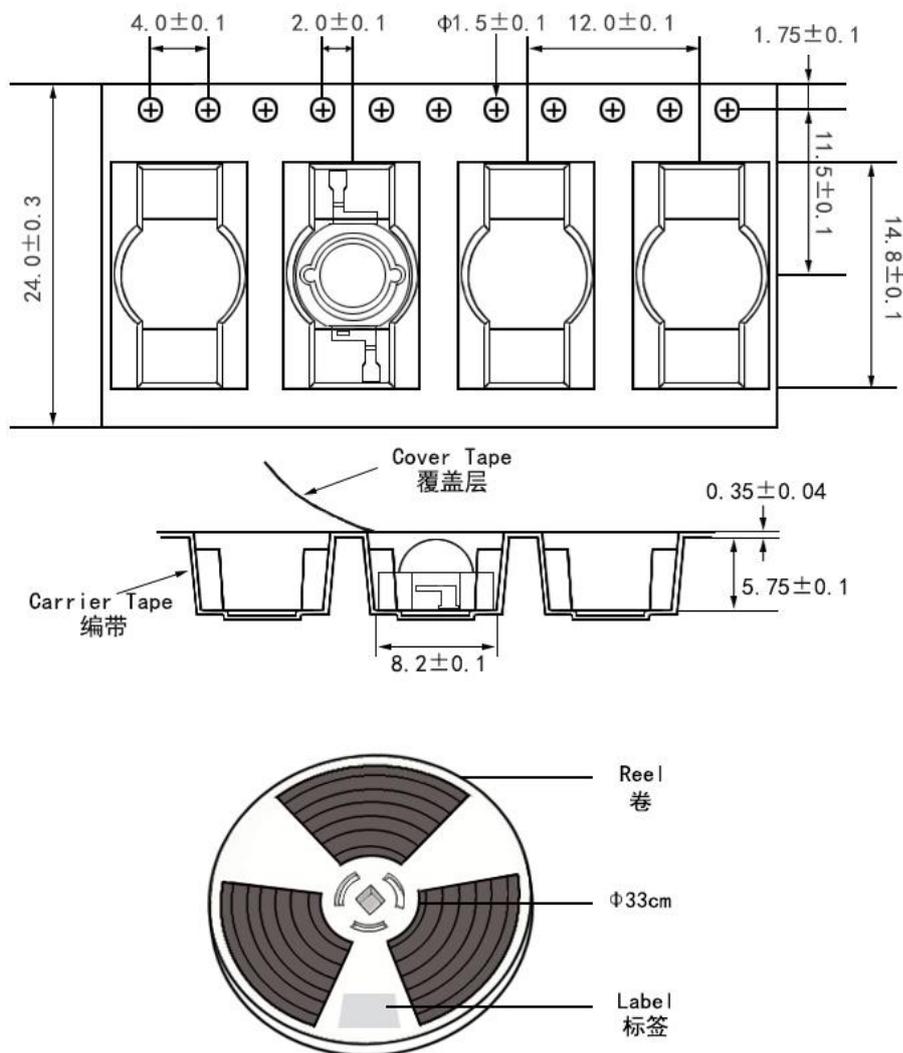
Radiation Characteristic

IF=1000mA



## 8. Tape & Reel Packing

1. Recommend unpacked LED beads be welded within one day, if not, please vacuumize again and store in an environment of 20-35°C and 30-60% humidity. If can't vacuumize, please store LED beads in moisture proof box, control at 25°C±3°C, humidity 50-60%. If unpacked above 1 week, bake at 60±5°C for 10-12 hours before weld.

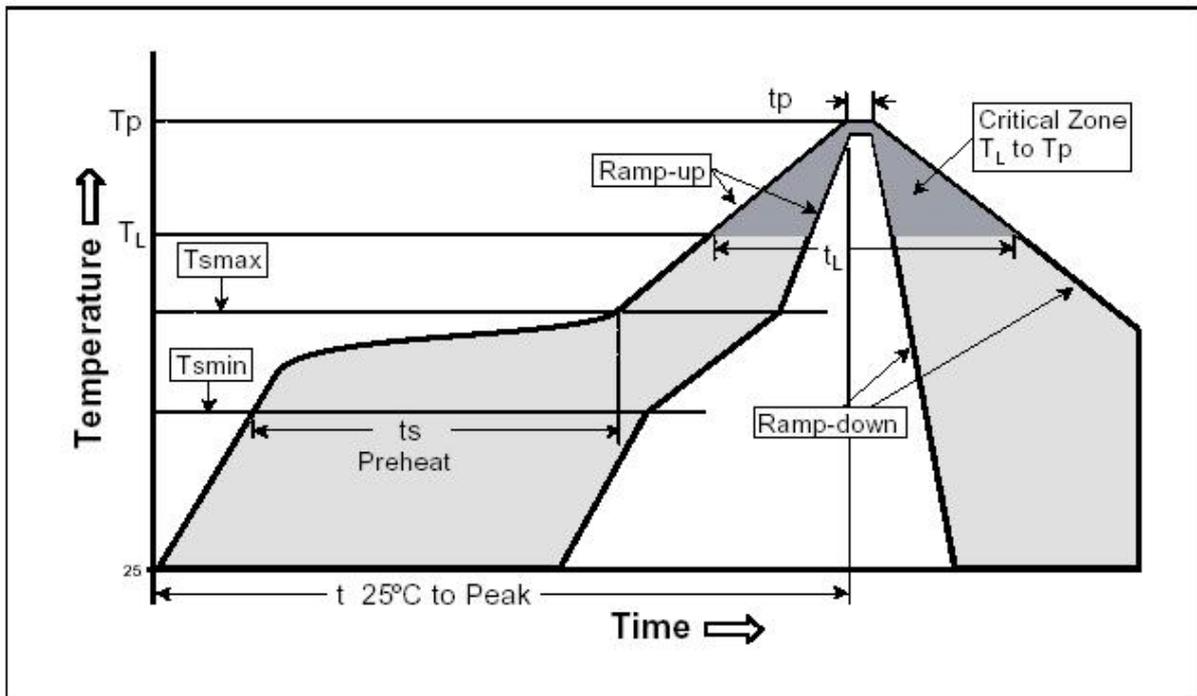


### Notes:

1. QTY: 800pcs/Reel
2. Tolerance ±0.2mm.
3. Package: P/N

## 9.Soldering Advice

1. When soldering, don't touch the LED appearance gel during, this bad operation will destroy the LED. Moding LED usually use reflow soldering, please refer to the following reflow temperature curve , and recommend the user follow the soldering temperature curve of the solder paste.



Temperature Curve Character	Lead-free solder
Average heating rate( $T_{smin}$ to $T_p$ )	Top 3 °C / s
Preheating: Minimum temperature ( $T_{smin}$ )	90°C
Preheating: Maximum temperature ( $T_{smax}$ )	200°C
Preheating: Time ( $T_{smin}$ to $T_{smax}$ )	60-180 s
Duration above temperature: Temperature $T_L$	240°C
Duration above temperature: Time $t_L$	60-150 s
Peak/classification temperature ( $T_p$ )	260°C
Time within 5°C of actual peak temperature ( $t_p$ )	20-40 s
Cooling speed	The highest 6 °C / s
Time to reach peak temperature at 25°C	8 minutes Max

## 10. Cautions

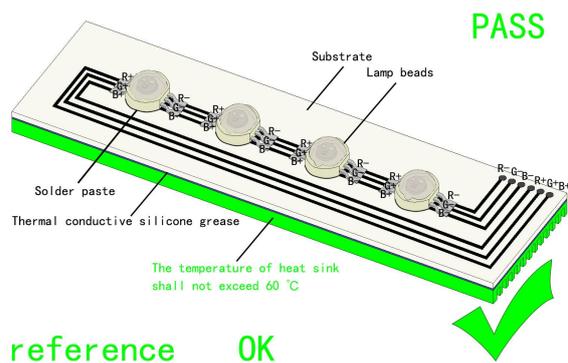
### 1. Electrostatic Treatment

Do a full range of anti-static measures (such as: anti-static ring, anti-static clothes, machine, equipment grounding wire, etc.)



### 2. Heat Dissipation

- A、 It is recommend to configure reasonable heat dissipation device for the product.
- B、 The best working temperature range of the product is 40-60°. It is recommended to control the working temperature of the product within a reasonable range.



### 3. Installation Conditions

A、 Do not exert any pressure on the LED area during the use of the led beads. If the machine is used to take materials, select a suction nozzle of reasonable size, such as below:

