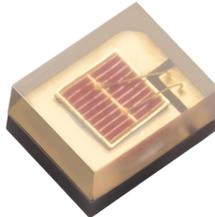


# PRODUCT SPECIFICATION



**Part No.: WL-3P2016EP140R-640**  
**SMD High Power LED**

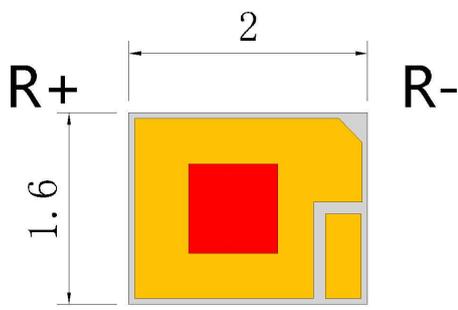
## Catalog

1.Product Features	P2
2.Dimensions	P2
3.Absolute Maximum Rating	P3
4.Optical Character	P3
5.Optical Character Curves	P4
6.Spectrum Curves	P5
7.Viewing Angle Curves	P5
8.Soldering Advice	P7
9.Cautions	P8

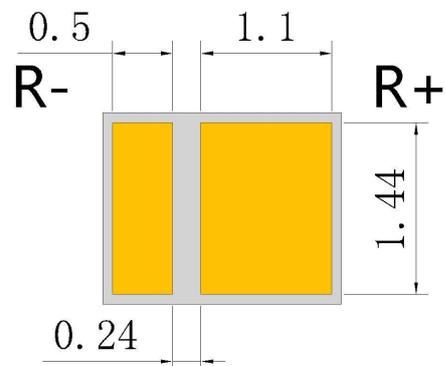
## 1. Product Features

- High Brightness Red LED
- Round Package
- Viewing Angle 140 Degree
- Chip Material: InGaN AlGaInP
- RoHS Compliant

## 2. Dimensions



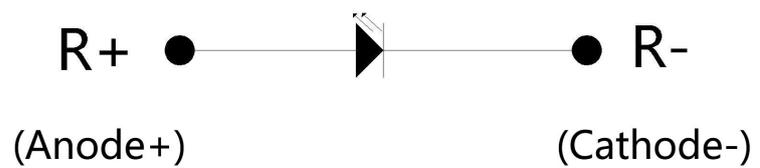
Top view



Bottom view



Side view



Circuit diagram

### 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	700	mA
Peak Forward Current (1/10 Duty Cycle, 0.1ms Pulse Width)	IFp	1000	mA
Reverse Voltage	VR	5	V
Power Dissipation	PD	1.5	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	R	2.0	2.2	2.4	V	IF=700mA
Luminous Flux	Φ	R	40	50	60	Lm	IF=700mA
Peak Wavelength	WIP	R	635	637.5	640	nm	IF=700mA
Reverse Current	IR		0		1	μA	VR=5V
Viewing Angle	2θ1/2			140		deg	IF=700mA
Recommend Forward Current	IF(rec)	R			700	mA	

#### Notes:

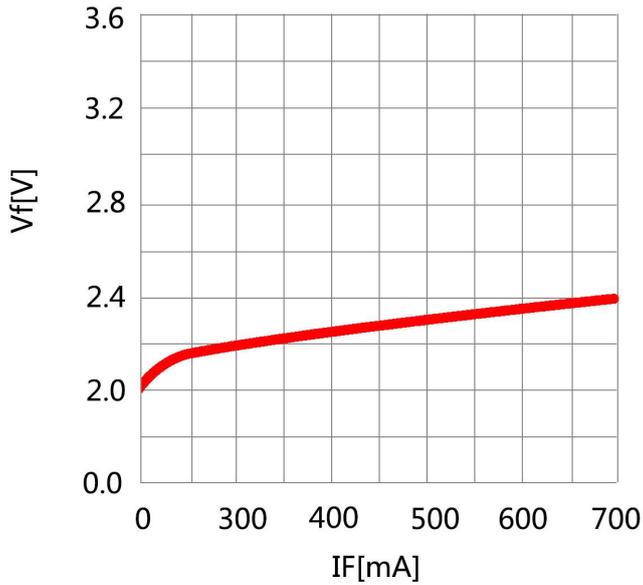
Measurement tolerance of forward voltage ±0.1V



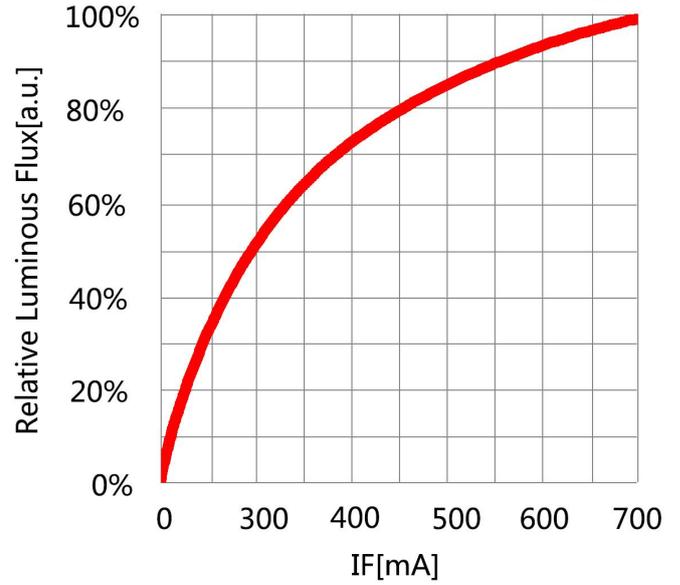
## 5. Optical Character Curves

( 25 ° Ambient Temperature Unless Otherwise Noted )

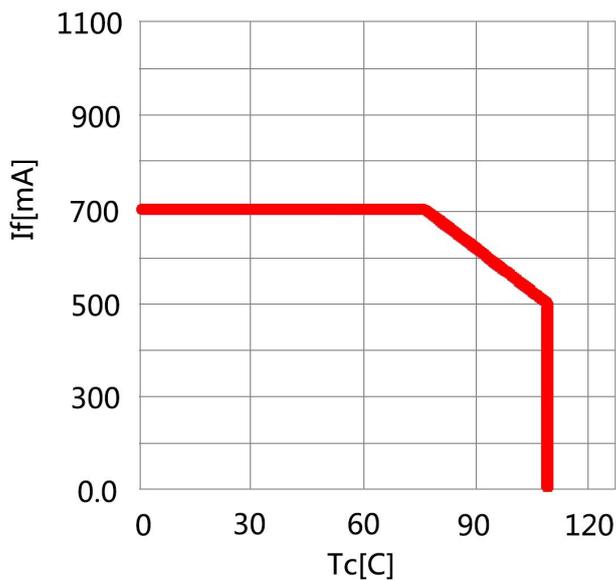
Forward Current vs. Forward Voltage  
Tc=25C



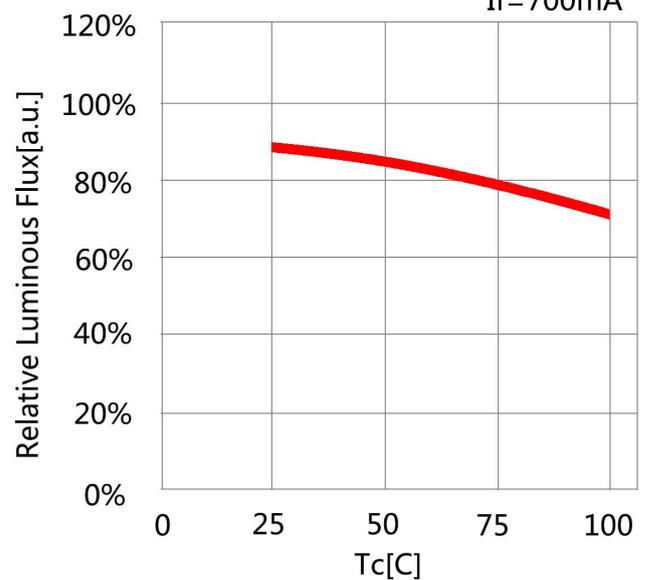
Forward Current vs. Relative Luminous Flux  
Tc=25C



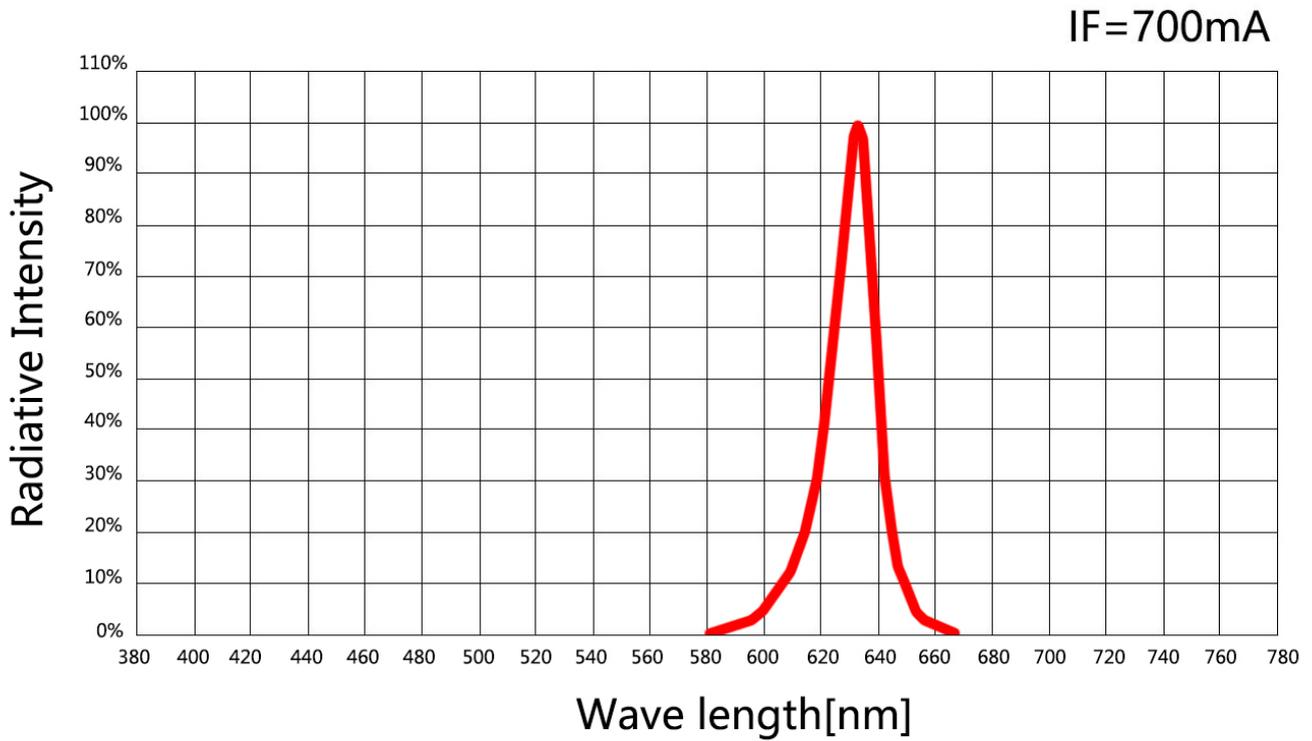
Temperature vs. Forward Current



Temperature vs. Relative Luminous Flux  
If=700mA



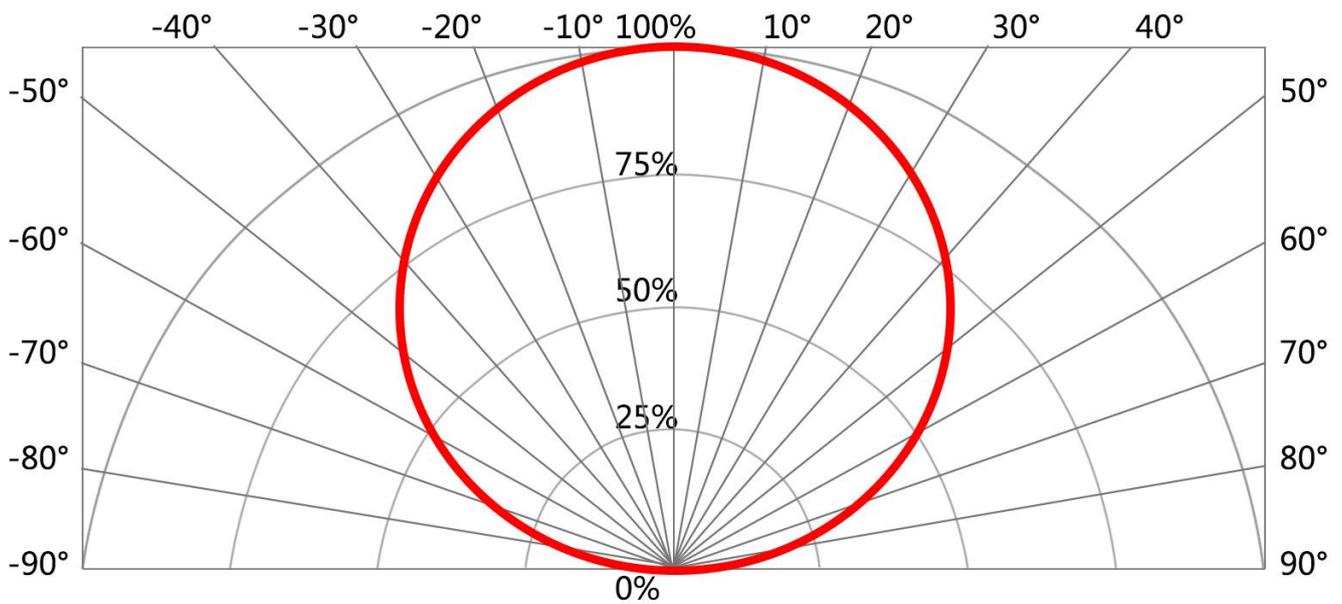
## 6. Spectrum Curves



## 7. Viewing Angle Curves

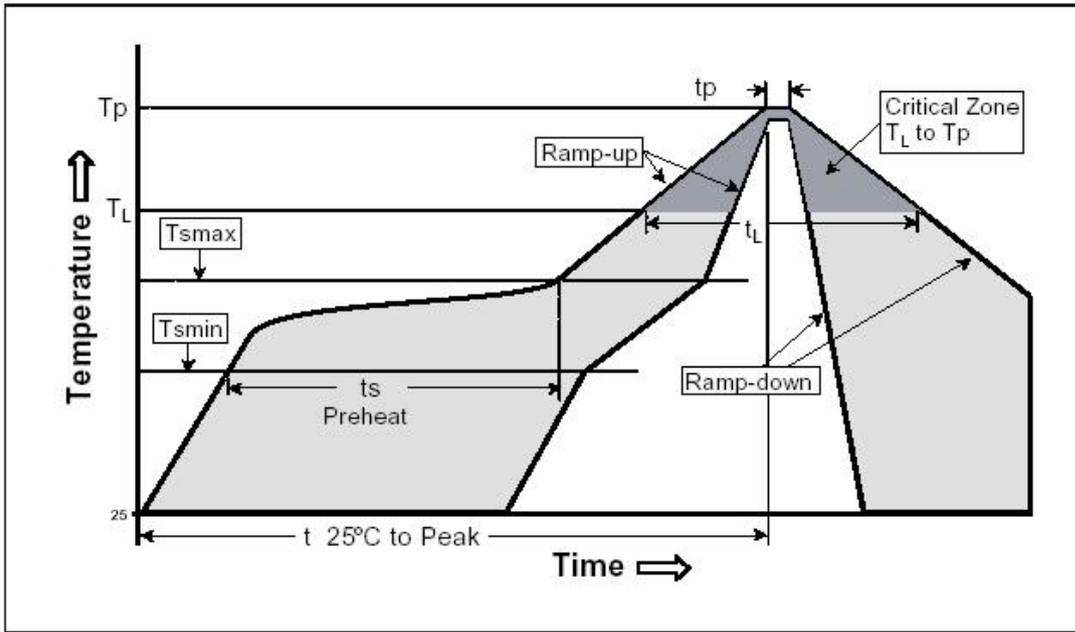
Radiation Characteristic

IF=700mA



## 8.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(TSmin to Tp)	Top 3 °C / s
Preheating: Minimum temperature (TSmin)	90°C
Preheating: Maximum temperature (TSmax)	200°C
Preheating: Time (TSmin to TSmax)	60-180 s
Duration above temperature: Temperature TL	240°C
Duration above temperature: Time tL	60-150 s
Peak/classification temperature (Tp)	260°C
Time within 5°C of actual peak temperature (tp)	20-40 s
Cooling speed	The highest 6 °C / s
Time to reach peak temperature at 25°C	8 minutes Max

## 9. Cautions

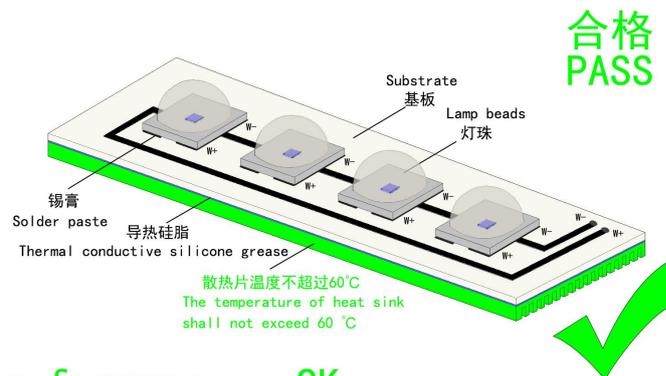
### 1. Electrostatic Treatment

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

reference OK

- A、 Do not exert any pressure on the LED area during the use of the led beads. such as below:

