

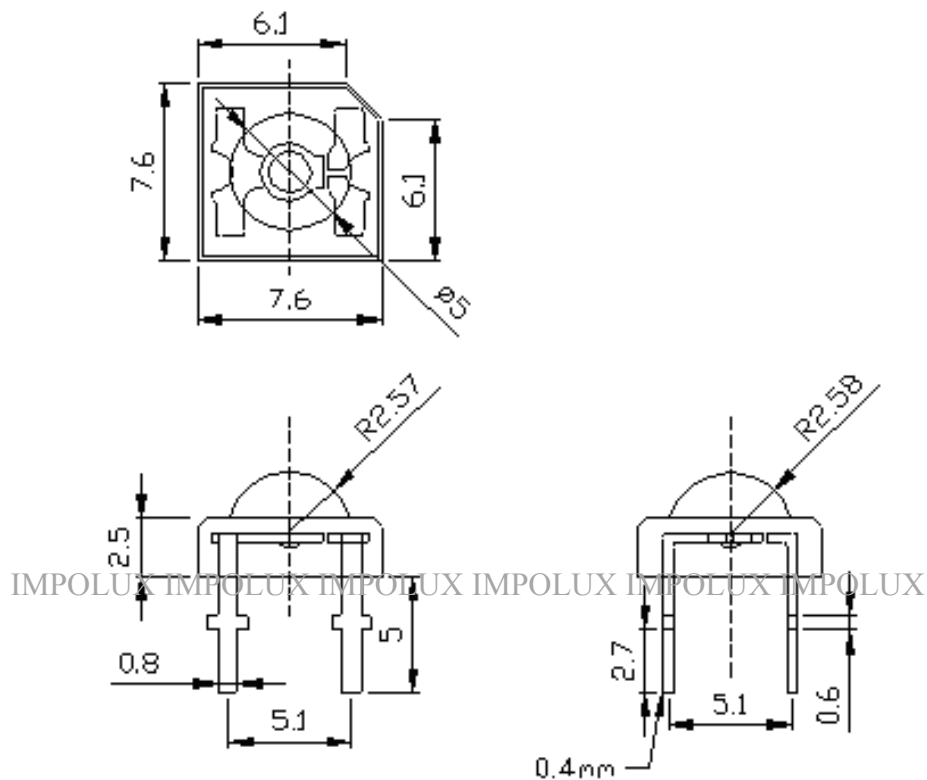


## DATA SHEET

### Features

- **Pb free product—RoHS compliant**
- **Low power consumption, High efficiency**
- **Wide viewing angle, High intensity**
- **I.C. compatible/low current requirement**
- **Versatile mounting on p.c. board or panel**
- **General purpose leads**

### Package Dimension:



### Notes:

1. All dimensions are in millimeters .
2. Tolerance is  $\pm 0.20$ mm unless otherwise noted.
3. Protruded resin under flange is 1.0mm max
4. Lead spacing is measured where the leads emerge from the package.
5. Caution in ESD:

Static Electricity and surge damages the LED. It is recommend to use a wrist band or anti-electrostatic glove when handling the LED. All devices, equipment and machinery must be properly grounded.

### Absolute Maximum Ratings (Ta = 25°C)

Items	Symbol	Absolute maximum Rating	Unit
Forward Current(DC)	IF	60	mA
Peak Forward Current*	IFP	100	mA
Power Dissipation	PD	120	mW
Operation Temperature	Topr	-40 ~ +95	°C
Storage Temperature	Tstg	-40 ~ +100	°C
Reverse Voltage	VR	5	V
Soldering Temperature	Tsol	Reflow Soldering: 260°C/3sec Hand Soldering: 300°C/3sec	

\*Pulse width ≤ 1msec duty ≤ 1/10

### Typical Electrical & Optical Characteristics (Ta = 25°C)

Items	Symbol	Condition	Min.	Typ.	Max.	Unit
Forward Voltage	VF	IF = 20mA	2.8	---	3.6	V
Reverse Current	IR	VR = 5V			5	µA
Chromatic Coordinates	(X,Y)	IF = 20mA	---	(0.43,0.40)	---	---
Luminous Flux	Φv	IF = 20mA		4.5		lm
Luminous Intensity	IV	IF = 20mA	---	6000	---	mcd
50% Power Angle	2θ½	IF = 20mA	---	60	---	Deg

### Material

Item	Reflector	Wire	Encapsulate	Chip
Material	Copper	Gold	Epoxy	InGaN

### Standard Bins

Rank(IF=20mA)	Code		
Luminous Intensity(mcd)	<b>L22</b>	<b>L23</b>	<b>L24</b>
	6105~8550	8550~11970	11970~16760
Forward Voltage(V)	<b>V8</b>	<b>V9</b>	<b>V10</b>
	2.8~3.0	3.0~3.2	3.2~3.4
Chromatic Coordinates	<b>WY4</b>		<b>WY5</b>
	<b>XY4</b>		<b>XY5</b>

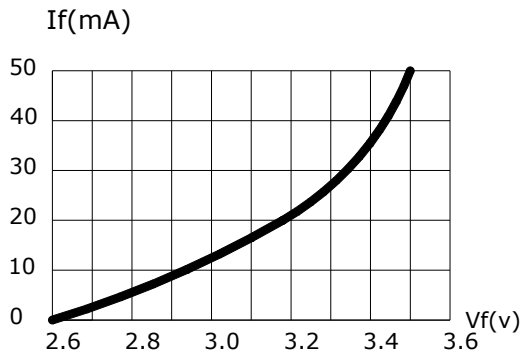
Notes :

All dimensions are in mm. Tolerance is ±0.25 mm unless otherwise noted.

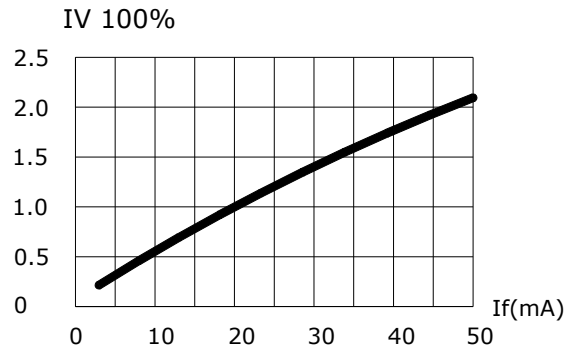
An epoxy meniscus may extend about 1.5 mm down the leads.

Burr around bottom of epoxy may be 0.5 mm max.

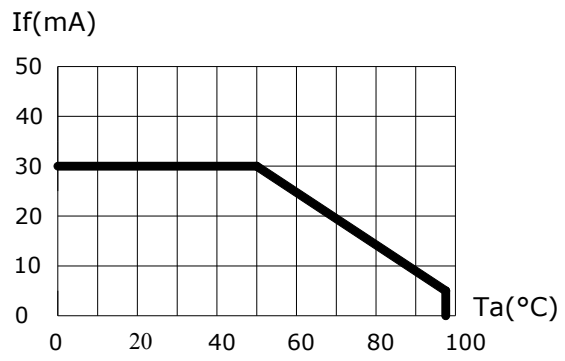
### Typical Electrical/Optical Characteristics Curves(Ta=25°C Unless Otherwise Noted)



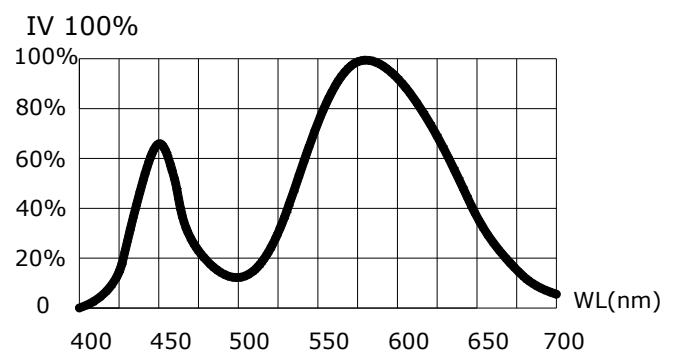
**Fig. 1 Forward Current vs Forward Voltage**



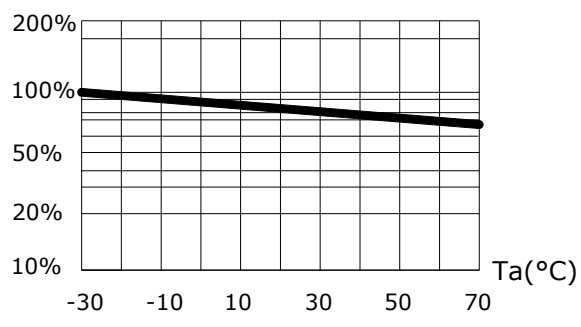
**Fig. 2 Relative Luminous Intensity vs Forward Current**



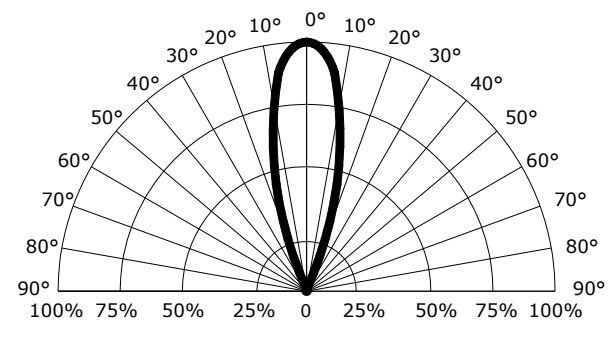
**Fig. 3 Maximum Forward Current vs Ambient Temperature**



**Fig. 4 Relative Luminous Flux vs Wavelength**



**Fig. 5 Relative Luminous Flux vs Ambient Temperature**



**Fig. 6 Relative Luminous Flux vs Radiation Angle**



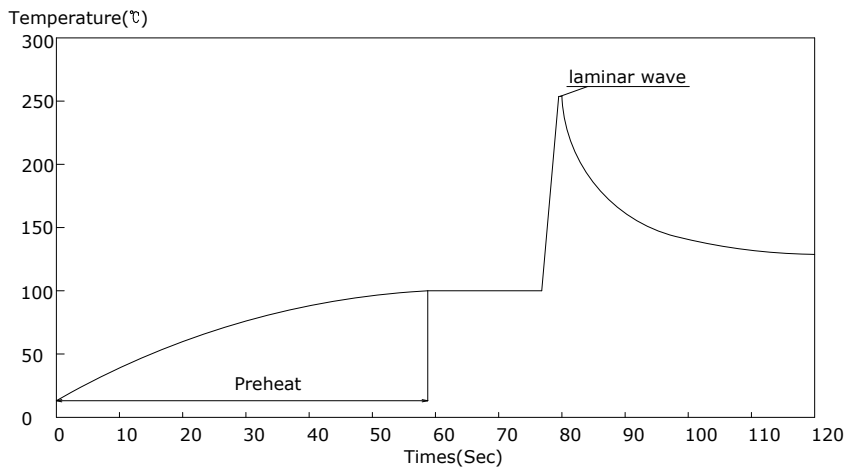
**1. Storage**

Any mechanical force or any excess vibration shall not be accepted to apply during cooling process to normal temperature after soldering. Avoid quick cooling. Lead frames are silver plated copper alloy. The silver plate surface may be affected by environments which contains corrosive substances. Please avoid conditions which may cause the LEDs to corrode, tarnish or discolour.

**2. Soldering**

Manual Soldering		Solder Dipping	
Soldering Iron	35W max.	Preheat	110°C max
Temperature	280°C max(63/37 Solder)	Preheat time	60 seconds max.
	300°C max(Pb free solder)	Solder temperature	63/37 Solder:235°C(245°Cmax)
Soldering Time	3 seconds max.		Pb-free solder:255°C(260°Cmax)
Position	Not less than 3mm from the base of the epoxy	Dipping Time	3 seconds max.
		Position	Not less than 3mm from the base of the epoxy

Recommended soldering profile:



Solder=Sn 63-Pb 37	Solder= Pb-Free
Peak preheat temperature:100-110°C	Peak preheat temperature:100-110°C
Total preheat time:50-60seconds	Total preheat time:50-60seconds



<b>Peak profile fit temperature:235°C(max 245°C)</b>	<b>Peak profile fit temperature:260°Cmax</b>
<b>Dwell time above 200°C should not exceed 3 seconds</b>	<b>Dwell time above 200°C should not exceed 3 seconds</b>

**Caution**

The LEDs must not be repositioned after soldering  
Do not apply any stress to the lead particularly when heat

**3. Static Electricity**

Static Electricity and surge voltage damage the LEDs. So it is recommended that an ESD wrist band, ESD shoe strap or an anti-electrostatic glove be used when handling the LEDs.

All devices, equipment and machinery must be properly grounded

**4. Others**

Reverse voltage should not exceed the absolute maximum rating on the data sheet.

The LED leads may become tarnished if they contact hydrogen sulphide or other gaseous chemicals.

The colour of the LEDs is changed slightly an operating current and thermal.

This device should not be used in any type of fluid such as water, oil, organic solvent and etc

When washing is required, IPA (Isopropyl Alcohol) should be used.

The influence of ultrasonic cleaning on the leds depends on factors such as ultrasonic power and the way.

Gallium arsenide is used in some of the products listed in this publication. These products are dangerous if they are burned or smashed in the process of disposal, It is also dangerous to drink the liquid or inhale the gas generated by such products when chemically disposed.

High-brightness LED light may injure human eyes. Avoid looking directly into lighted LED

The appearance and specifications of the product may be modified for improvement without notice.

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Markierung

Intern verbunden



**Bild von der Unterseite**

Intern verbunden

Widerstand 470Ω

**+  
12V**