



# TOYO LED ELECTRONICS LIMITED

Room 1610, Hong Kong Plaza, 188 Connaught Road West, Hong Kong.  
Tel : (852) 2540 7288 Fax : (852) 2517 1797  
http://www.toyo-led.com E-mail : sales@toyo-led.com



## P/N: TY-L1206URUG1(0.70)

1206 Package 3.0\*1.5mm Surface Mount LEDs Series

### ◆ Features:

- 3.0mm x 1.5mm SMT LED, 0.70mm thickness
- Mono-color type
- Soldering methods :All SMT assembly methods
- Comply ROHS standard



### ◆ Description

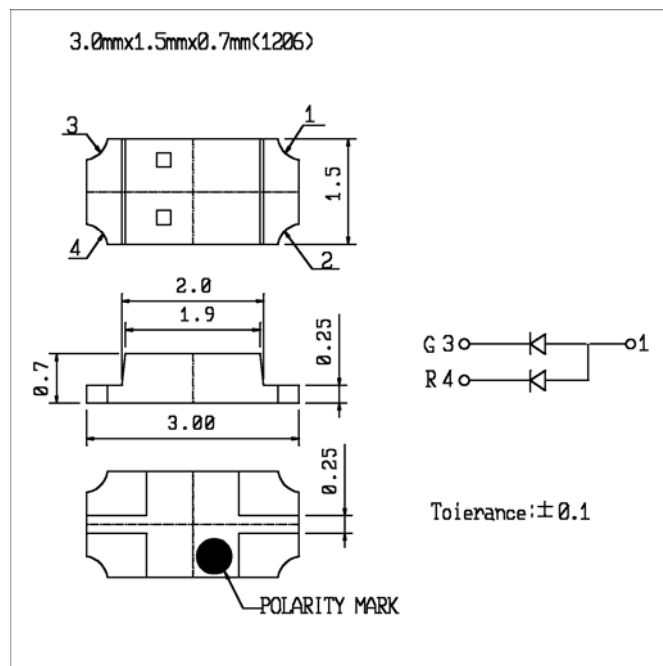
The Red source color devices are made with AlGaInP on sapphire Light Emitting Diode.

The Yellow Green source color devices are made with AlGaInP on sapphire Light Emitting Diode.

### ◆ Application

- Optical indicator
- Indicator and backlighting in telephone and fax
- Flat backlight for LCD, switch and symbol
- Light pipe application
- General use

### ◆ Package Dimensions



### NOTES:

1. All dimensions are in millimeter[unit];
2. Tolerance is  $\pm 0.1\text{mm}$  (0.004") especially other specified;
3. Specifications are subject to change without notice.



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Part No.	Emitted Color	Len's Color	Chip Material
TY-L1206URUG1(0.7)	Red	Water clear	AlGaInP
	Yellow Green		AlGaInP

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

Item	Symbol	Maximum		Unit
		UR	UG	
Power Dissipation	PD	70	65	mW
Continuous Forward Current	I <sub>Fmax</sub>	30	30	mA
Peak Forward Current(1/10 Duty Cycle 0.1ms Pulse Width)	I <sub>FP</sub>	70	160	mA
Reverse Voltage	V <sub>R</sub>	5	5	V
Operating Temperature Range	T <sub>opr</sub>	-40 to+85		°C
Storage Temperature Range	T <sub>stg</sub>	-40 to+85		°C
Lead Solder Temperature	T <sub>sol</sub>	260°C for 3 seconds		

### ✧ Electrical/Optical Characteristics(Ta=25°C)

Item	Symbol	Condition	Min.		Typ.		Max		Unit
			UR	UG	UR	UG	UR	UG	
Forward Voltage	V <sub>F</sub>	I <sub>F</sub> =20mA	1.8	2.0	2.0	2.2	2.2	2.6	V
Luminous Intensity	I <sub>V</sub>	I <sub>F</sub> =20mA	80	20	100	--	140	60	mcd
Wavelength	λ	I <sub>F</sub> =20mA	620	568	625	571	630	574	nm
Viewing Angle	2θ <sub>1/2</sub>	I <sub>F</sub> =20mA	---	---	120	120	---	---	Deg
Reverse Current	I <sub>R</sub>	V <sub>R</sub> =5V	---	---	---	---	10	10	uA



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### ◇ Typical Electro-Optical Characteristics Curves (RED)

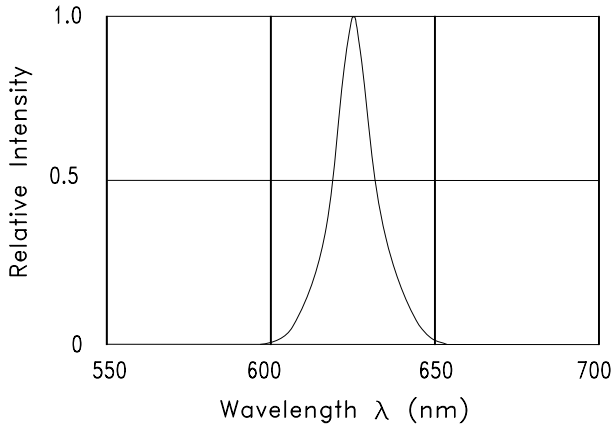


Fig.1 RELATIVE INTENSITY VS. WAVELENGTH

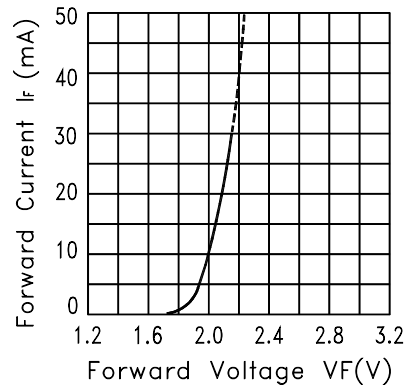


Fig.2 FORWARD CURRENT VS. FORWARD VOLTAGE

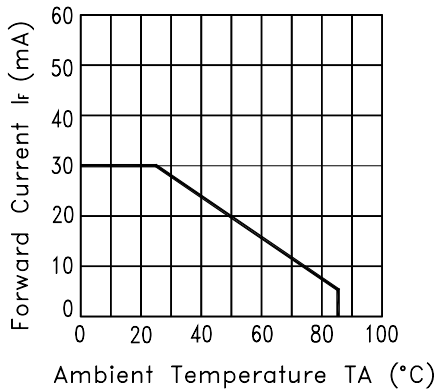


Fig.3 FORWARD CURRENT DERATING CURVE

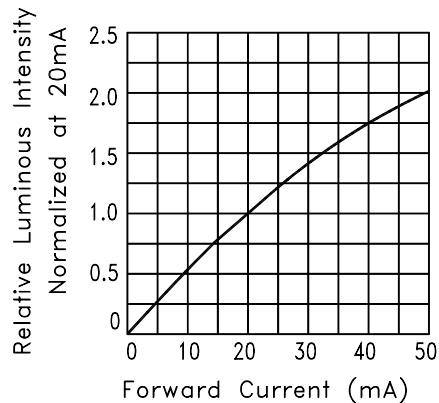


Fig.4 RELATIVE LUMINOUS INTENSITY VS. FORWARD CURRENT

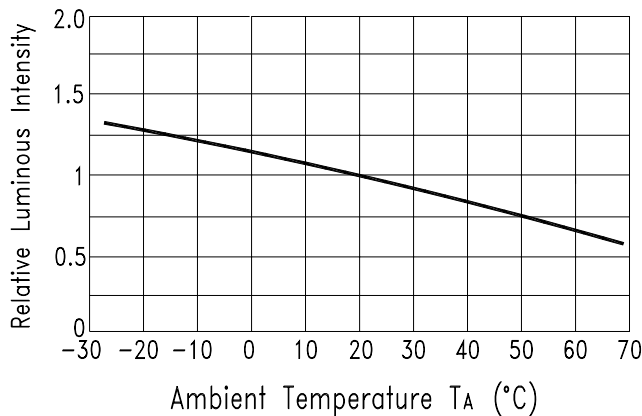


Fig.5 Luminous Intensity vs. Ambient Temperature

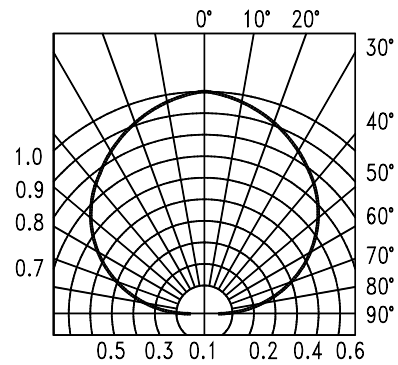


Fig.6 SPATIAL DISTRIBUTION



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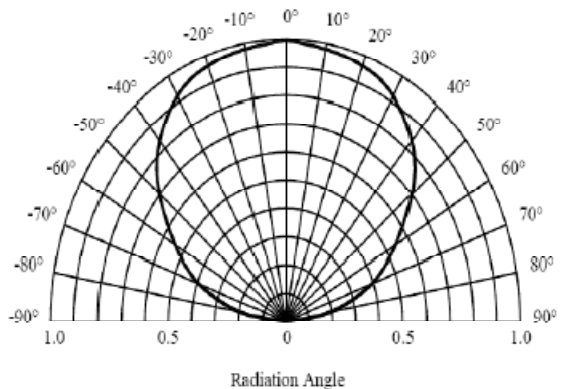
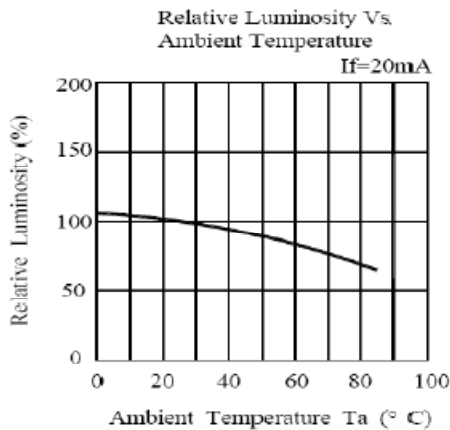
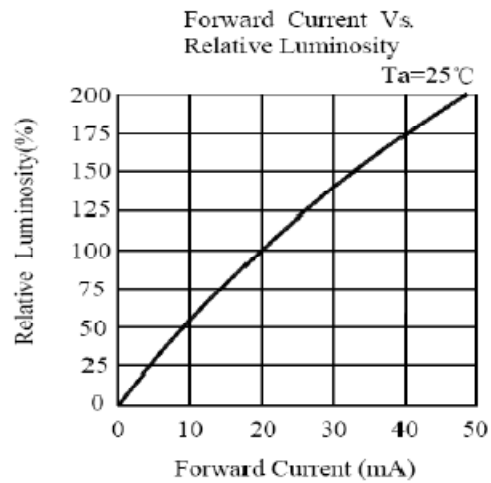
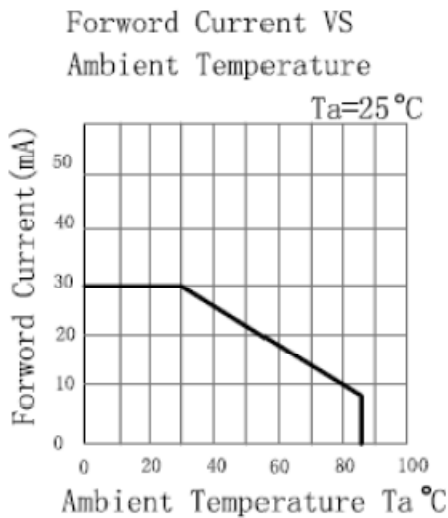
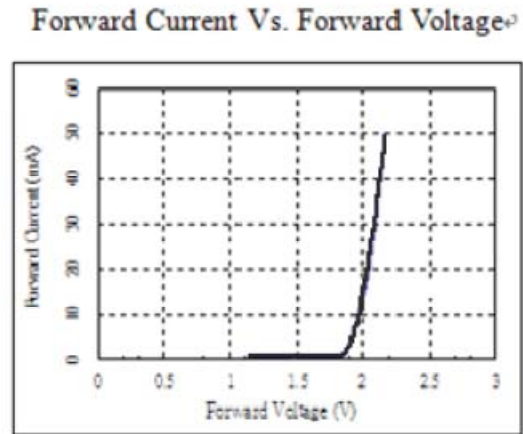
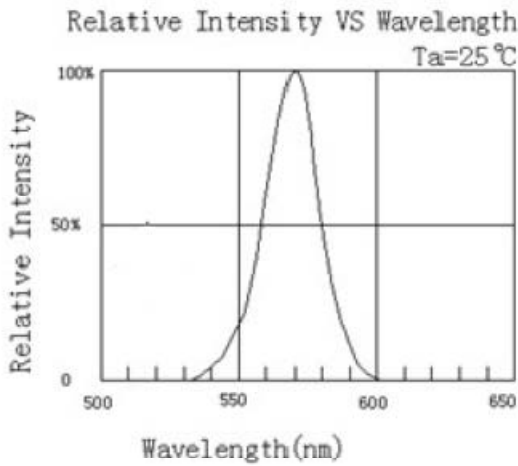
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## ✧ Typical Electro-Optical Characteristics Curves (GREEN)





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## P/N: TY-L1206URUG1(0.70)

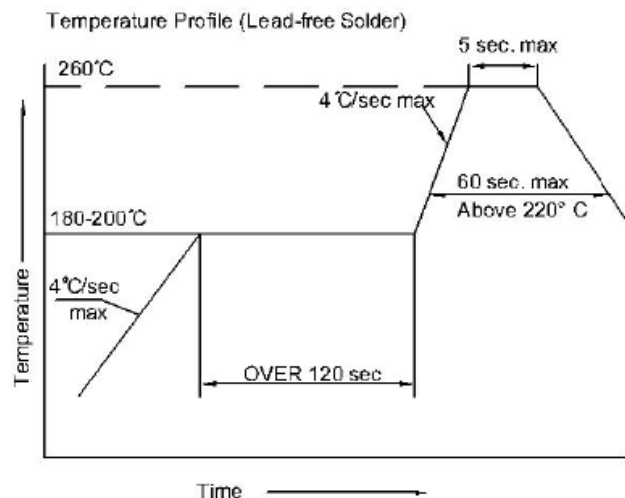
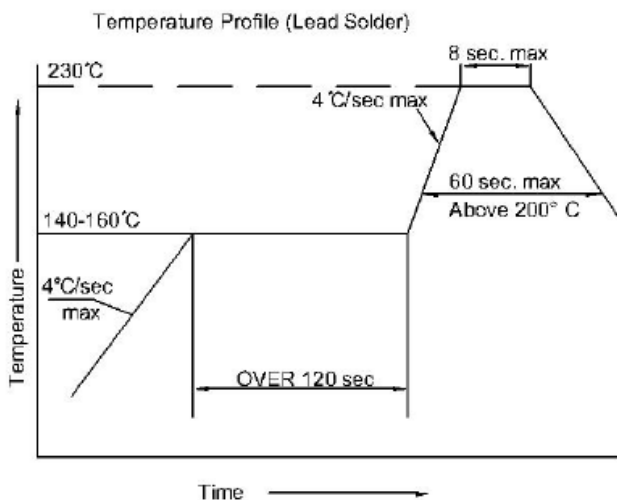
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### ◇ Reliability Test Items And Conditions

NO.	Item	Test Condition	Test Hr/cycle/time	Sample Q'ty	Ac/Re
1	Reflow	TEMP:260±5°C; Min.5Sec	6 min	22pcs	0/1
2	Temperature Cycle	H:+100°C 15mins To(5mins) L:-40°C 15mins	300 cycles	22pcs	0/1
3	Thermal Shock	H:+100°C 15mins To(5mins) L:-40°C 15mins	300 cycles	22pcs	0/1
4	High Temperature Storage	TEMP:+260°C	1000hrs	22pcs	0/1
5	Low Temperature Storage	TEMP:-40°C	1000hrs	22pcs	0/1
6	DC Operating Life	IF=20MA	1000hrs	22pcs	0/1
7	High Temperature	85°C	1000hrs	22pcs	0/1
8	High Humidity	85%R.H.	1000hrs	22pcs	0/1

### ◇ SMT Reflow Soldering Instructions

Number of reflow process shall be than 2 times and cooling  
 Process to normal temperature is required between first and second  
 soldering process





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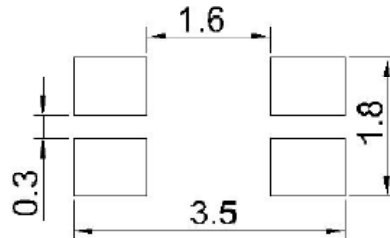
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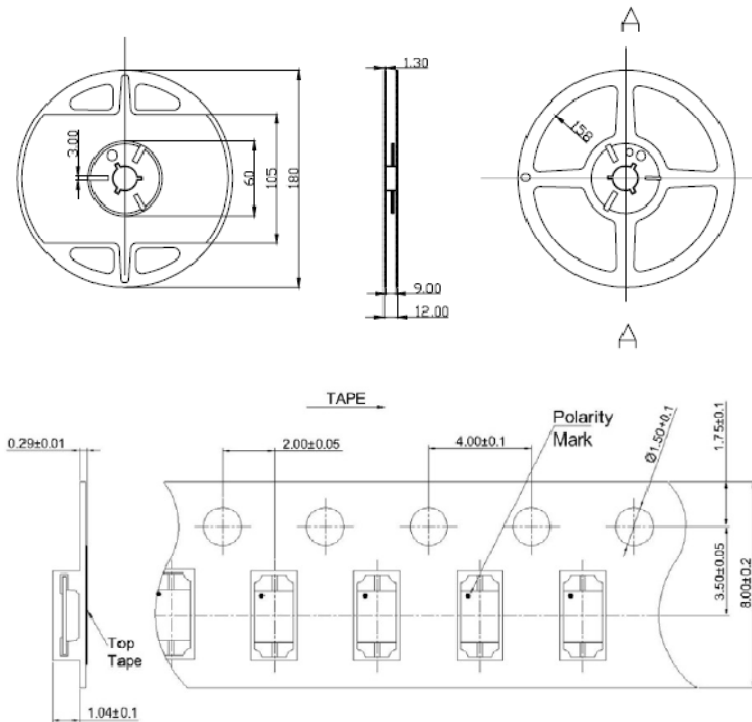
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### ◇ Recommended Soldering Pad Dimensions



### ◇ Tape Specification: 3,000PCS per reel



### ◇ Package Label

<b>SMD LED</b>	
PART NO: _____	QA Pass
LOT NO : _____	
Q' TY : _____	
VF : _____ IV : _____	
WL : _____ BIN: _____	Pb
DATA : _____	
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## ❖ Package & Shipping Instructions

