



**Opto Plus LED Corp.**

**OPL- AI0933TP-05E**

1.8mm Round Subminiature Solid State Rt. Angle Bend

● **EDIT HISTORY**

Version : Oct. 3, 2012

New color data sheet.

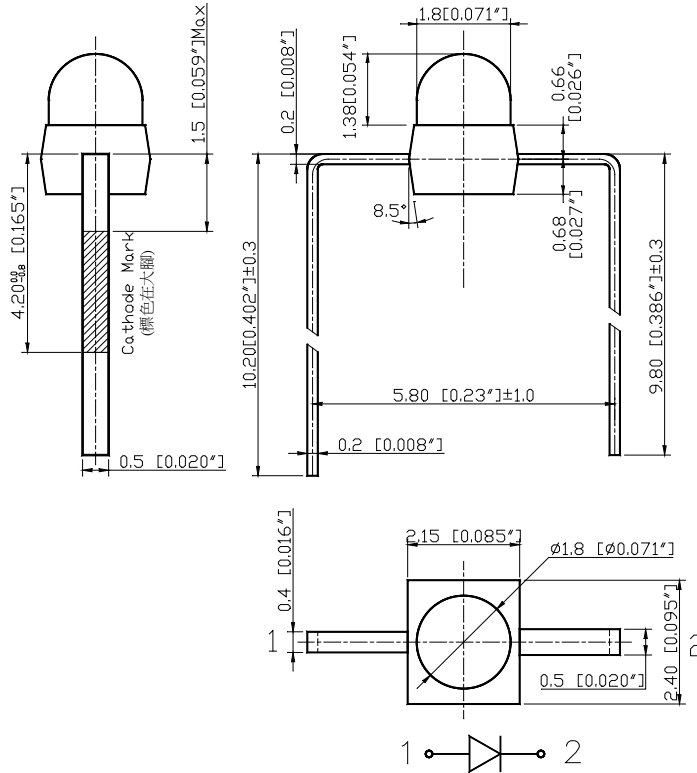


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### ● PACKAGE DIMENSIONS



ITEM	MATERIALS
Resin (mold)	Epoxy
Bonding wire	□ 25 μm Au
Lens color	Water transparent
Dice	AlGaInP
Emitted color	Amber

#### NOTES:

- All dimensions are in millimeters (inches);
- Tolerances are ±0.2mm (0.008inch) unless otherwise noted.

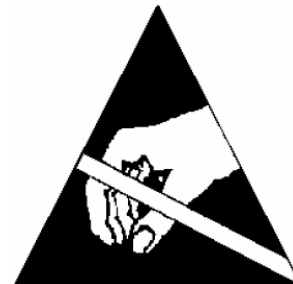
**RoHS Compliance**



**Pb free.**



**ESD**





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### ● ABSOLUTE MAXIMUM RATINGS AT TA=25°C

Parameter	Symbol	Amber	Unit
Power Dissipation	P <sub>AD</sub>	75	mW
Forward Current	I <sub>F</sub>	30	mA
Peak Pulsing Current (duty cycle 1/8, f=1KHz)	I <sub>FP</sub>	125	mA
Reverse Voltage	V <sub>R</sub>	5	V
Operating Temperature Range	T <sub>OPR</sub>	-20 to +80	°C
Storage Temperature Range	T <sub>STG</sub>	-20 to +80	°C

### ● ELECTRICAL OPTICAL CHARACTERISTICS AT TA=25°C

Characteristic	Symbol	Condition	Min.	Type	Max.	Unit
Forward Voltage	V <sub>F</sub>	I <sub>F</sub> =20mA	-	2.0	2.5	V
Reverse Current	I <sub>R</sub>	V <sub>R</sub> =5V	-	-	10	μA
Peak Wavelength	λ <sub>p</sub>	I <sub>F</sub> =20mA	-	610	-	nm
Dominant Wavelength	λ <sub>d</sub>	I <sub>F</sub> =20mA	601	606	611	nm
Luminous Intensity	I <sub>v</sub>	I <sub>F</sub> =20mA	700	-	-	mcd
Viewin angle at 50% I <sub>v</sub>	2θ <sub>1/2</sub>	I <sub>F</sub> =10mA	--	20	--	Deg

\* Remark: Luminous intensity tolerance is ±10% .



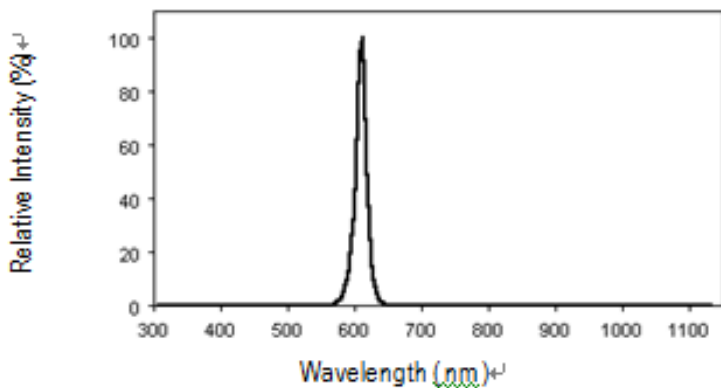
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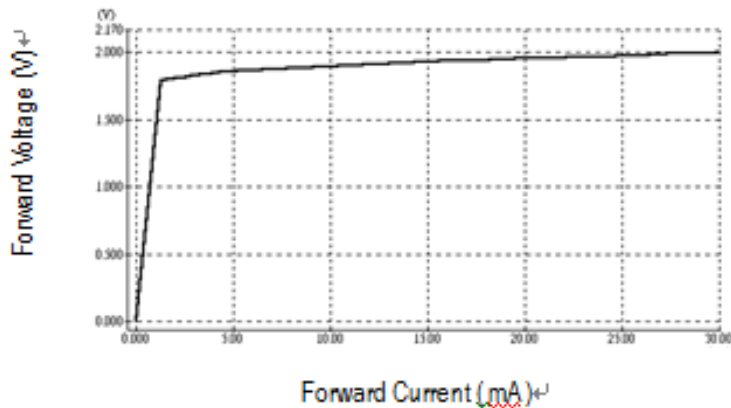
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● **OPTICAL CHARACTERISTIC CURVES**

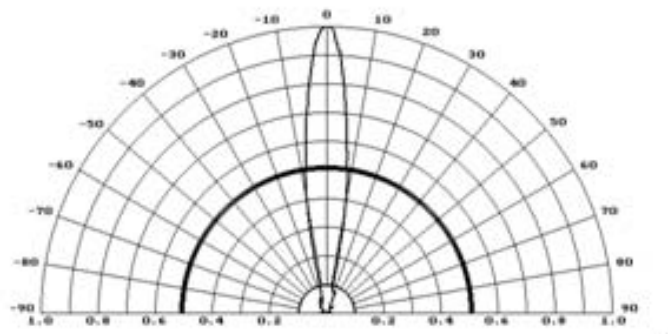
Relative Intensity vs. Wavelength



Forward Current vs. Forward Voltage



Directive Characteristics





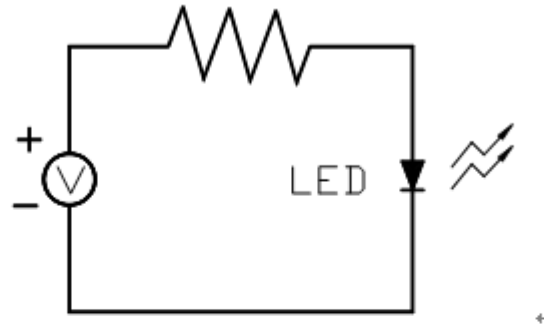
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## OPL- AI0933TP-05E

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### ● Test circuit and handling precautions

#### ■ Test circuit ↵



#### ■ Handling precautions ↵

##### 1. Over-current-proof ↵

Customer must apply resistors for protection; otherwise slight voltage shift will cause ↵  
big current change (Burn out will happen). ↵

##### 2. Storage ↵

2.1 It is recommended to store the products in the following conditions: ↵

Humidity: 60% R.H. Max. ↵

Temperature :  $5^{\circ}\text{C} \sim 30^{\circ}\text{C}$  ( $41^{\circ}\text{F} \sim 86^{\circ}\text{F}$ ) ↵

2.2 Shelf life in sealed bag: 12 month at  $< 5^{\circ}\text{C} \sim 30^{\circ}\text{C}$  and  $< 30\%$  R.H. after the package is ↵

Opened, the products should be used within a week or they should be keeping to stored at ↵  
 $\leq 20$  R.H. with zip-lock sealed. ↵

##### 3. Baking ↵

It is recommended to baking before soldering when the pack is unsealed after 72hrs. The ↵

Conditions are as followings: ↵

3.1  $60 \pm 3^{\circ}\text{C}$  x(12~24hrs) and  $< 5\%$  RH, taped reel type ↵

3.2  $100 \pm 3^{\circ}\text{C}$  x(45min~1hr), bulk type ↵

3.3  $130 \pm 3^{\circ}\text{C}$  x(15~30min), bulk type ↵

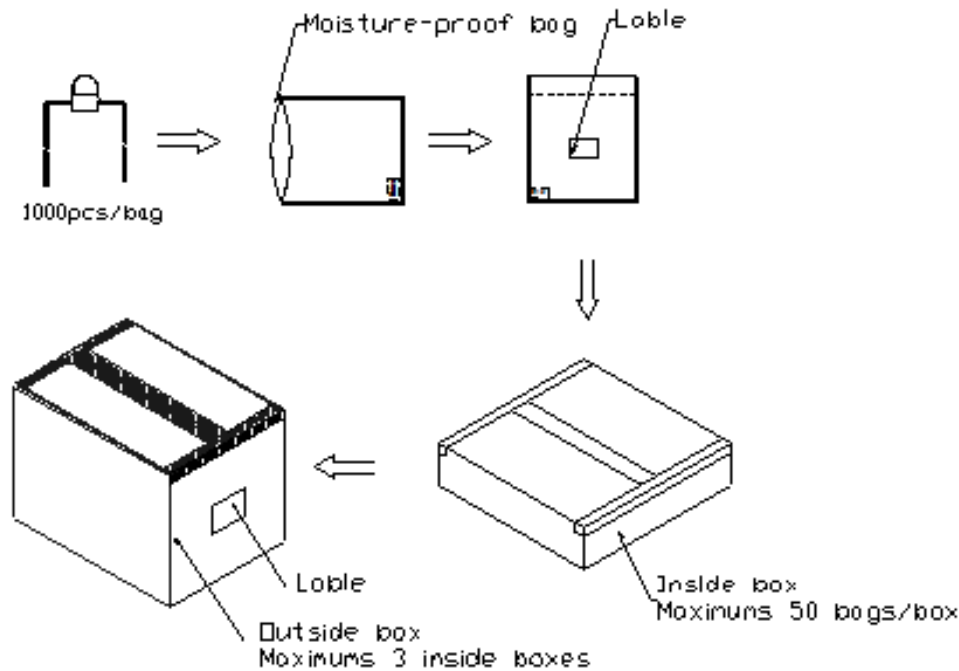


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### ● 1.8mm Round Subminiature Axial LEDs Packaging Specifications



#### NOTES:

Products (numbers of products are 1,000pcs) packed in a seal off moisture-proof bag along with a desiccant one by one, 50 moisture-proof bag of maximums (total maximum number of products are 50,000pcs) packed in an inside box (size: about 350mm x about 300mm x about 105mm) and three inside boxes of maximums are put in the outside box (size: about 360mm x about 320mm x about 330mm) Together with buffer material, and it is packed. (Part No., Lot No., quantity should appear on the label on the moisture-proof bag, part No. And quantity should appear on the label on the cardboard box.)

The number of the loading steps of outside box (cardboard box) has it to three steps.