



Opto Plus LED Corp.

OPL-WBA233TP-053

1.8mm Round Subminiature Solid State Rt. Angle Bend

● **EDIT HISTORY**

Version : Oct. 3, 2012

New color data sheet.

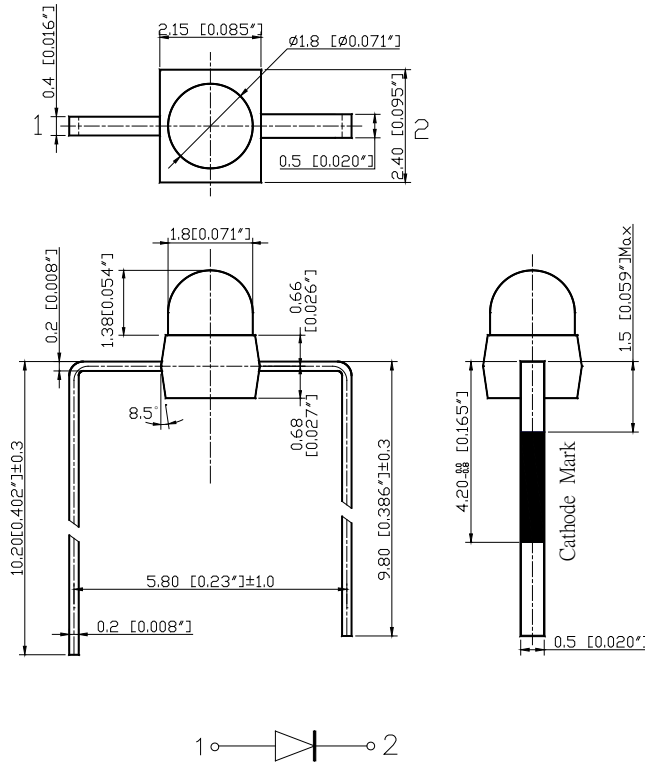


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● PACKAGE DIMENSIONS



ITEM	MATERIALS
Resin (mold)	Epoxy
Lens color	Yellow
Dice	InGaN
Emitted color	White

NOTES:

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

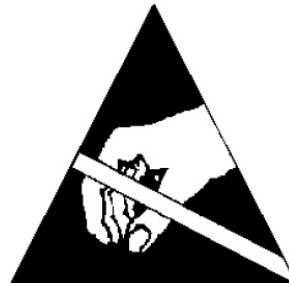
RoHS Compliance



Pb free.



ESD





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● ABSOLUTE MAXIMUM RATINGS AT TA=25°C

Parameter	Symbol	White	Unit
Power Dissipation	P _{AD}	111	mW
Forward Current	I _F	30	mA
Peak Pulsing Current (duty cycle 1/8, f=1KHz)	I _{FP}	125	mA
Reverse Voltage	V _R	5	V
Operating Temperature Range	T _{OPR}	-40 to +80	°C
Storage Temperature Range	T _{STG}	-40 to +85	°C

● ELECTRICAL OPTICAL CHARACTERISTICS AT TA=25°C

Characteristic	Symbol	Condition	Min.	Type	Max.	Unit
Forward Voltage	V _F	I _F =20mA	2.8	3.2	3.7	V
Reverse Current	I _R	V _R =5V	-	-	10	μA
CIE Coordinates	X Y	I _F =20mA	-	0.28 0.28	-	nm
Luminous Intensity	I _v	I _F =20mA	63	115	200	mcd
Viewin gangle at 50% I _v	201/2	I _F =10mA	--	165	--	Deg

* Remark: Luminous intensity tolerance is ±10% .



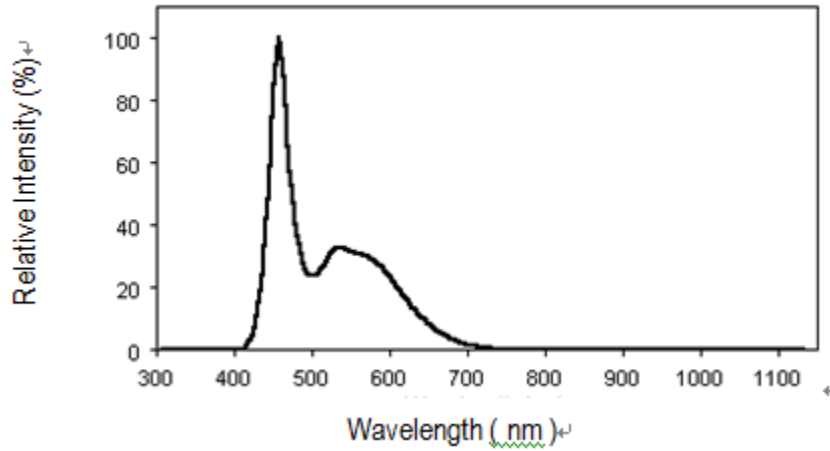
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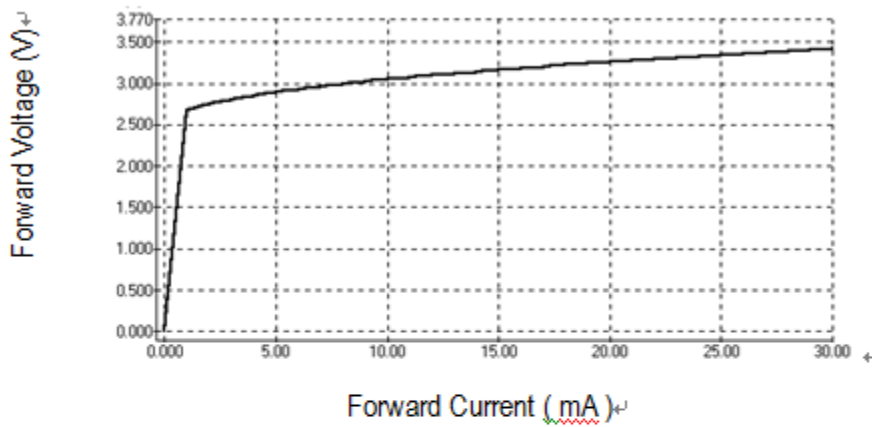
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● OPTICAL CHARACTERISTIC CURVES

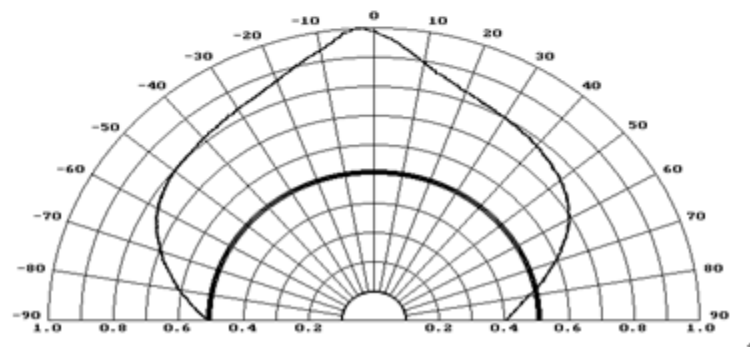
Relative Intensity vs. Wavelength



Forward Current vs. Forward Voltage



Directive Characteristics





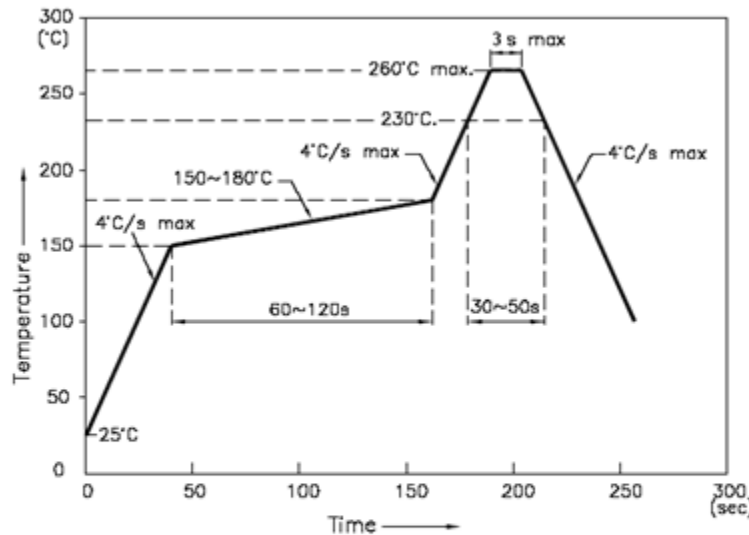
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● Reflow Profile

■ Reflow Temp/Time



NOTES:

1. We recommend the reflow temperature $245^{\circ}\text{C}(\pm 5^{\circ}\text{C})$ the maximum soldering temperature should be limited to 260°C .
2. don't cause stress to the epoxy resin while it is exposed to high temperature.
3. Number of reflow process shall be 2 times or less.

■ Soldering iron

Basic spec is $\leq 5\text{sec}$ when 260°C . If temperature is higher, time should

be shorter ($+10^{\circ}\text{C} \rightarrow -1\text{sec}$). Power dissipation of iron should be smaller than 20W, and temperatures should be controllable. Surface temperature of the device should be under 230°C .



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● Test circuit and handling precautions

↵

■ Test circuit ↵

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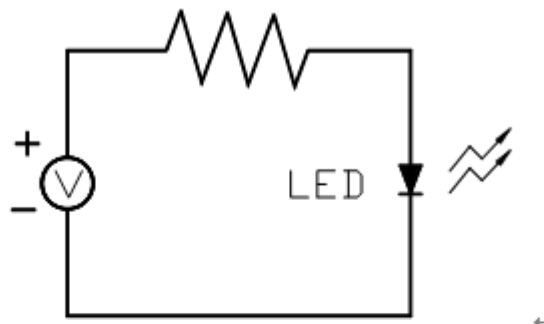
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■ Handling precautions ↵

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°C ~30°C (41°F~86°F) ↵

2.2 Shelf life in sealed bag: 12 month at <5°C~30°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 ↵
≤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±3°C x(12~24hrs) and <5%RH, taped reel type ↵

3.2 100±3°C x(45min~1hr), bulk type ↵

3.3 130±3°C x(15~30min), bulk type ↵

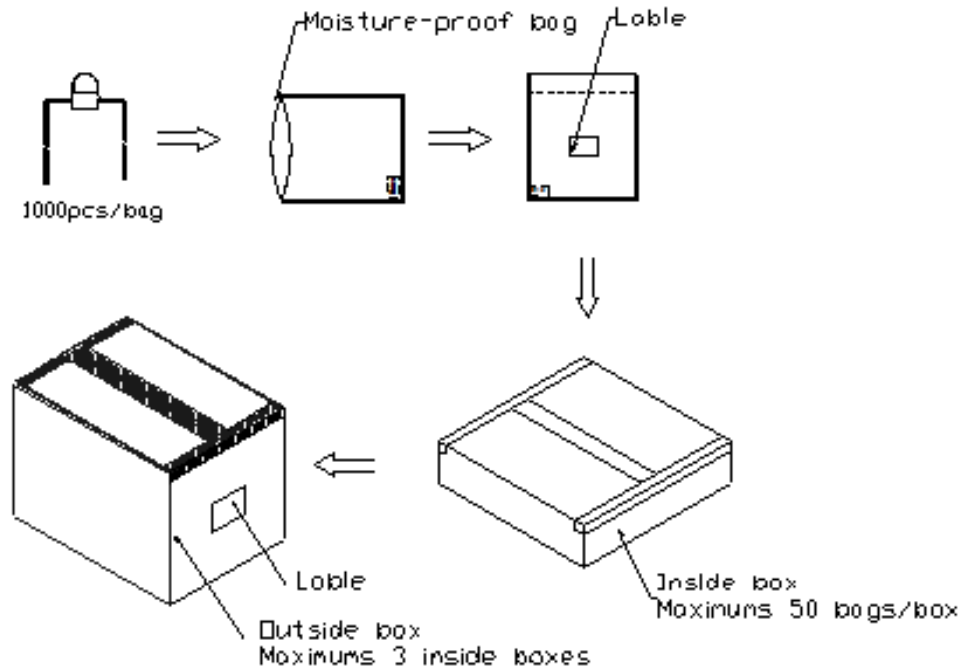


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● 1.8mm Round Subminiature Axial LEDs Packaging Specifications



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.