



Opto Plus LED Corp.

OPL- MZLR33TC-05J

1.8mm Round Subminiature Solid State Rt. Angle Bend

● EDIT HISTORY

Version : Oct. 3, 2012

New color data sheet.

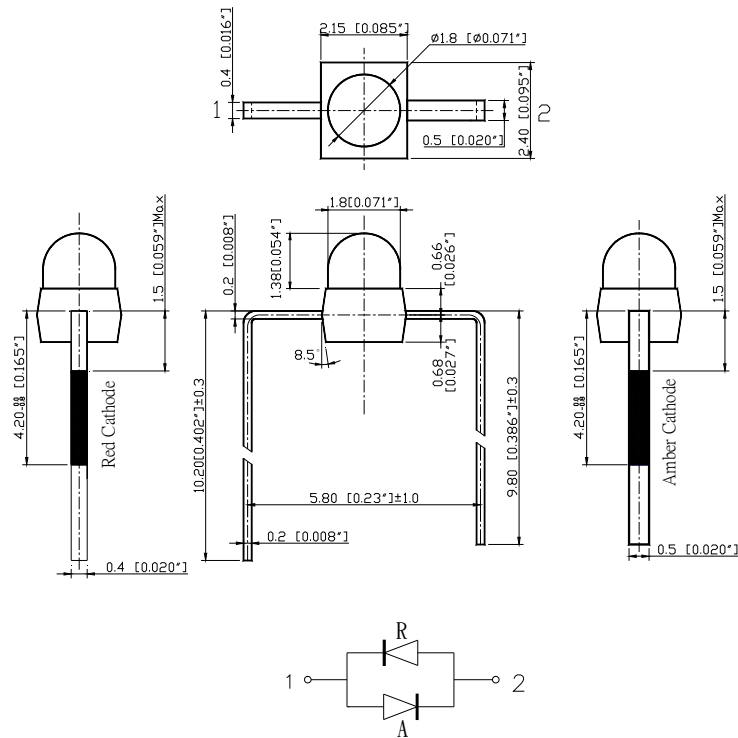


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● PACKAGE DIMENSIONS



ITEM	MATERIALS	
Resin (mold)	Epoxy	
Lens color	Water transparent	
Dice	Red	AlGaInP/GaAs
	Amber	AlGaInP/GaAs

NOTES:

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

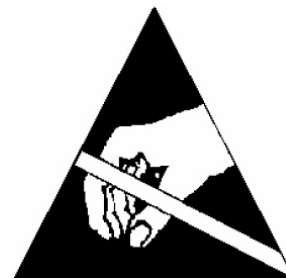
RoHS Compliance



Pb free.



ESD





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● ABSOLUTE MAXIMUM RATINGS AT TA=25°C

Parameter	Symbol	Red/Amber	Unit
Power Dissipation	P_{AD}	75/75	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	$I_F = 20\text{mA}$	1.7 1.7	2.0 2.0	2.5 2.5	V
Spectral half bandwidth	$\Delta \lambda$	$I_F = 20\text{mA}$	-	18 17	-	nm
Peak Wavelength	λ_P	$I_F = 20\text{mA}$	-	650 610	-	nm
Dominant Wavelength	λ_d	$I_F = 20\text{mA}$	630 600	640 605	650 610	nm
Luminous Intensity	I_V	$I_F = 20\text{mA}$	R: 40 A: 80	-	-	mcd
Viewin gangle at 50% I_V	$2\theta_{1/2}$	$I_F = 10\text{mA}$	--	20	--	Deg

* Remark: Luminous intensity tolerance is $\pm 10\%$.



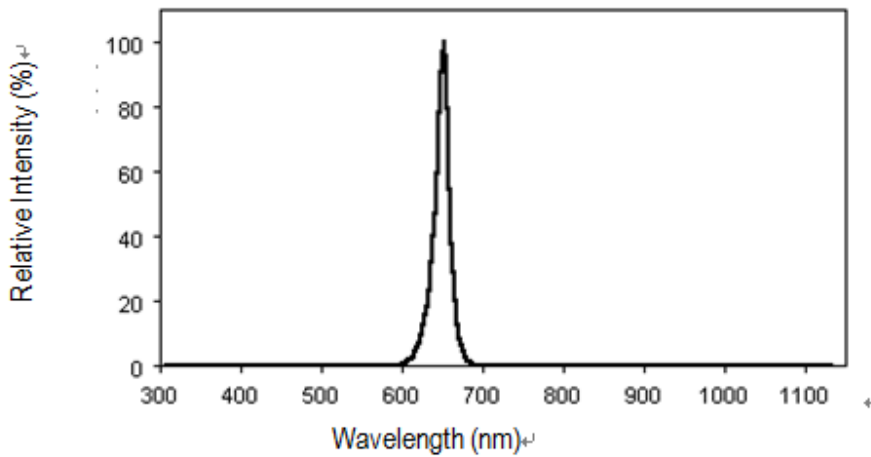
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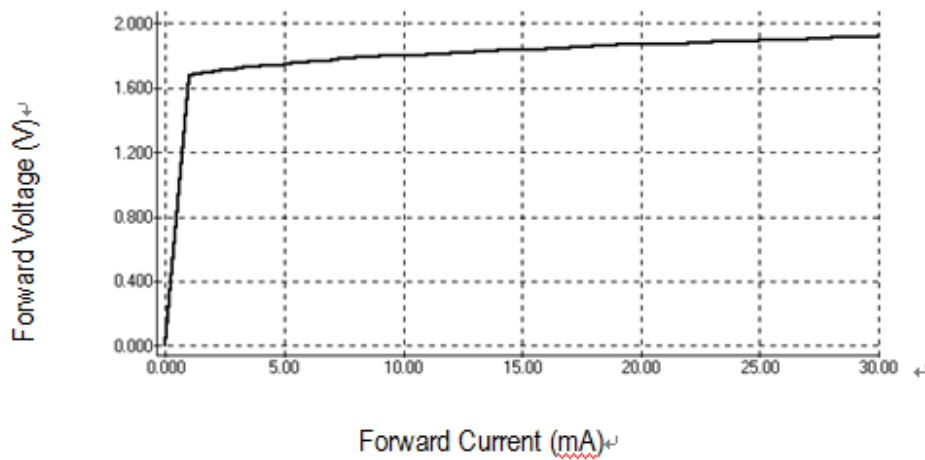
1.8mm Round Subminiature Solid State Rt. Angle Bend

● OPTICAL CHARACTERISTIC CURVES (Red)

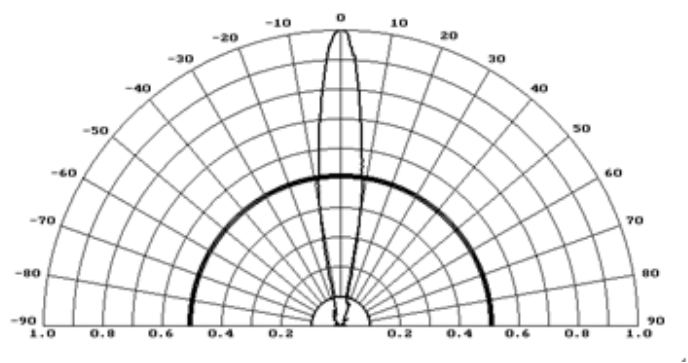
Relative Intensity vs. Wavelength.



Forward Current vs. Forward Voltage



Directive Characteristics





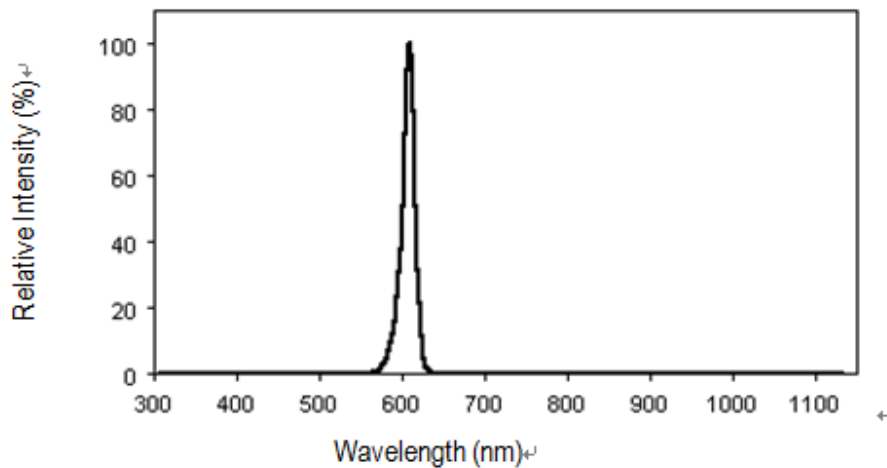
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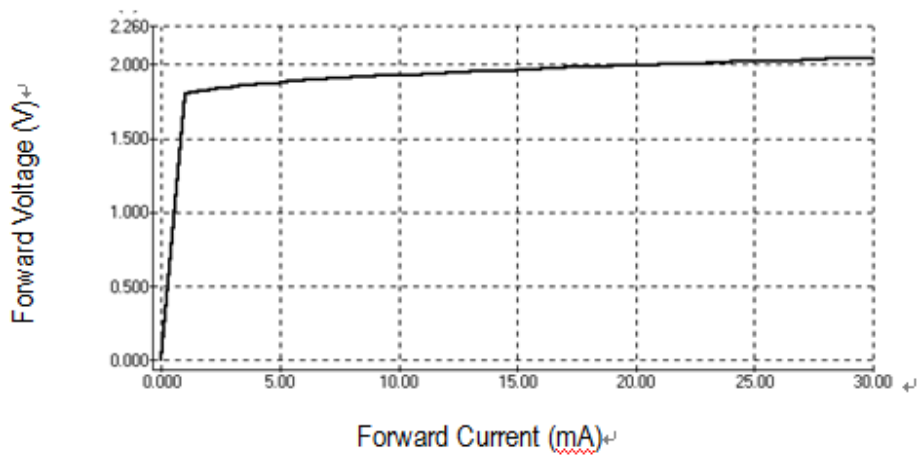
1.8mm Round Subminiature Solid State Rt. Angle Bend

● OPTICAL CHARACTERISTIC CURVES (Amber)

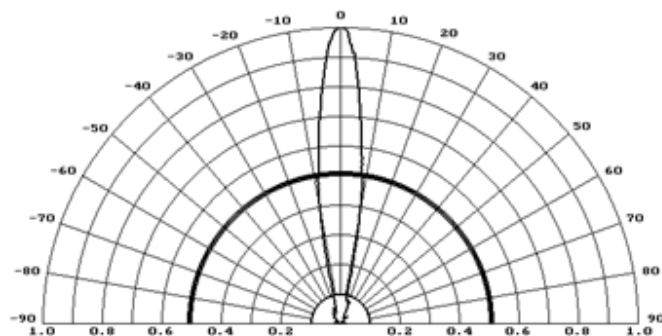
Relative Intensity vs. Wavelength.



Forward Current vs. Forward Voltage.



Directive Characteristics



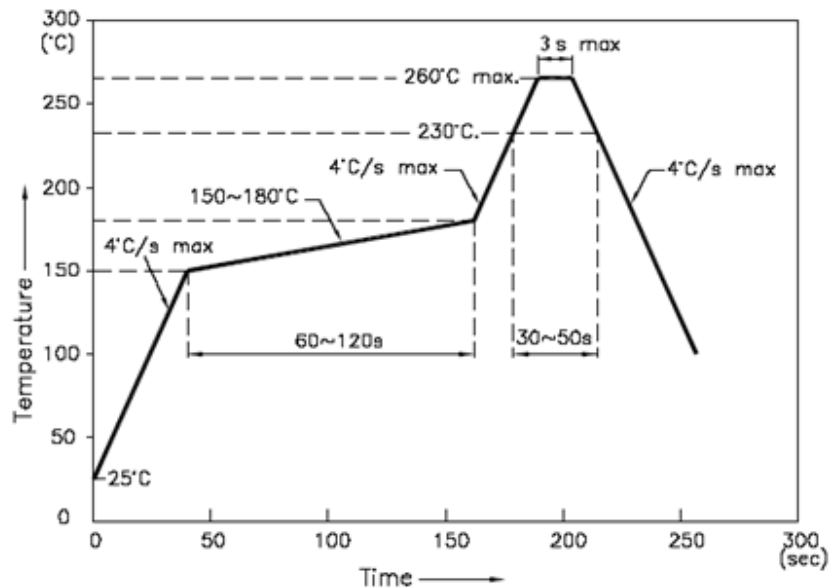


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● Reflow Profile

■ 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

■ 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 ≤ 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

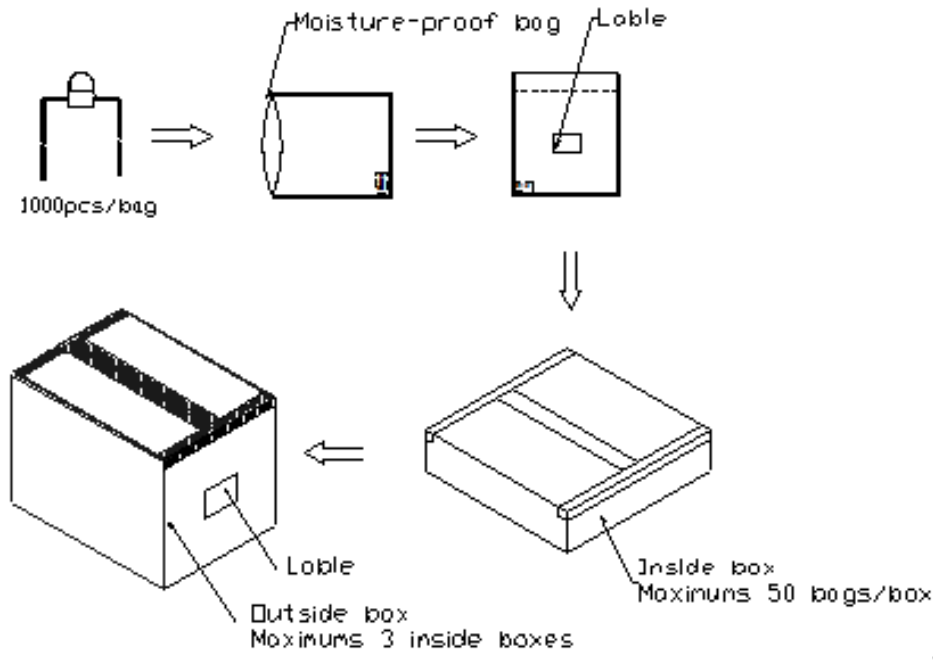
3.3 $130 \pm 3^{\circ}\text{C}$ x(15~30min), bulk type



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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.