



**Opto Plus LED Corp.**

**OPL- BT1233WP-053**

1.8mm Round Subminiature Solid State Rt. Angle Bend

● **EDIT HISTORY**

Version : Oct. 3, 2012

New color data sheet.

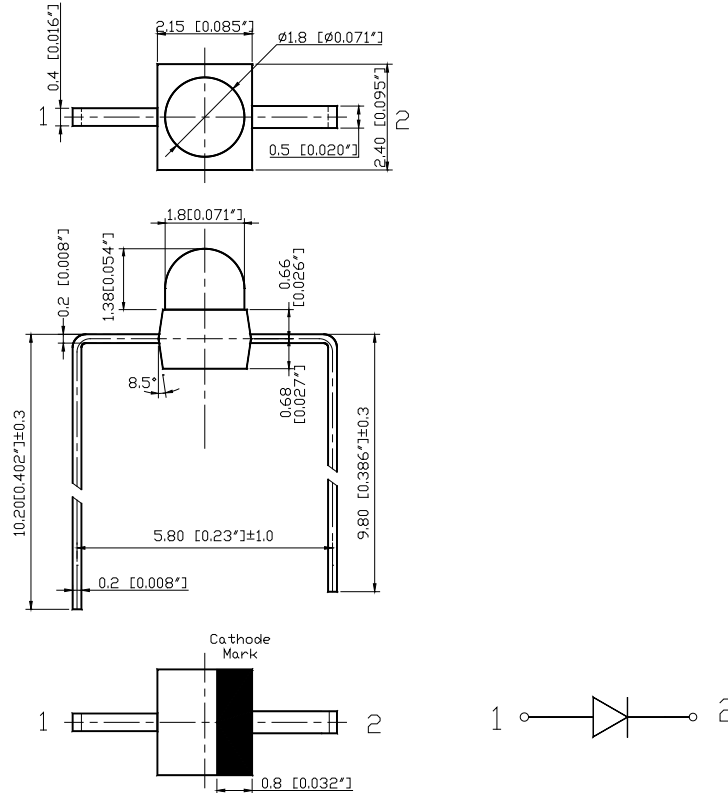


# Opto Plus LED Corp.

## OPL- BT1233WP-053

1.8mm Round Subminiature Solid State Rt. Angle Bend

### ● PACKAGE DIMENSIONS



ITEM	MATERIALS
Resin (mold)	Epoxy
Lens color	White diff.
Dice	InGaN
Emitted color	Blue

#### NOTES:

1. All dimensions are in millimeters (inches);
2. Tolerances are  $\pm 0.2$ mm (0.008inch) unless otherwise noted.

**RoHS Compliance**



**Pb free.**



**ESD**





# Opto Plus LED Corp.

## OPL- BT1233WP-053

1.8mm Round Subminiature Solid State Rt. Angle Bend

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

Parameter	Symbol	Blue	Unit
Power Dissipation	P <sub>AD</sub>	108	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>	-40 to +80	°C
Storage Temperature Range	T <sub>STG</sub>	-40 to +85	°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	2.8	3.1	3.6	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	-	465	-	nm
Dominant Wavelength	λ <sub>d</sub>	I <sub>F</sub> =20mA	465	470	475	nm
Luminous Intensity	I <sub>v</sub>	I <sub>F</sub> =20mA	50	80	160	mcd
Viewin angle at 50% I <sub>v</sub>	2θ1/2	I <sub>F</sub> =10mA	--	160	--	Deg

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



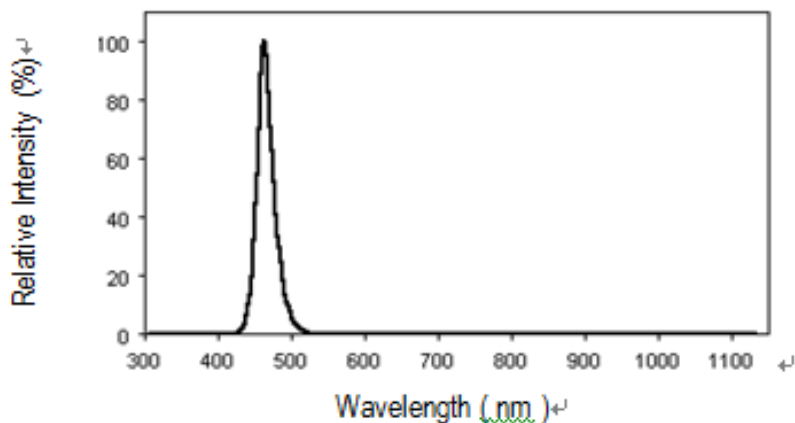
# Opto Plus LED Corp.

## OPL- BT1233WP-053

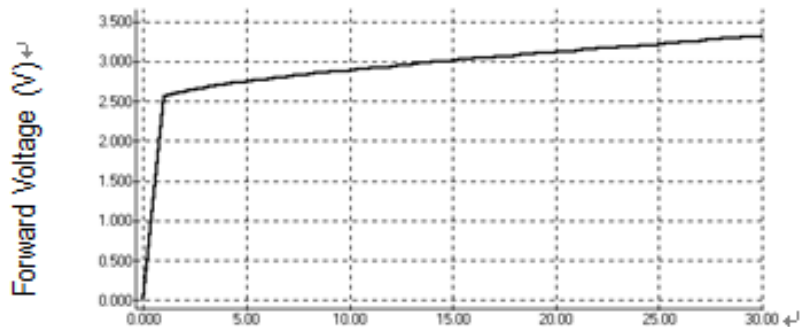
1.8mm Round Subminiature Solid State Rt. Angle Bend

### ● OPTICAL CHARACTERISTIC CURVES

Relative Intensity vs. Wavelength

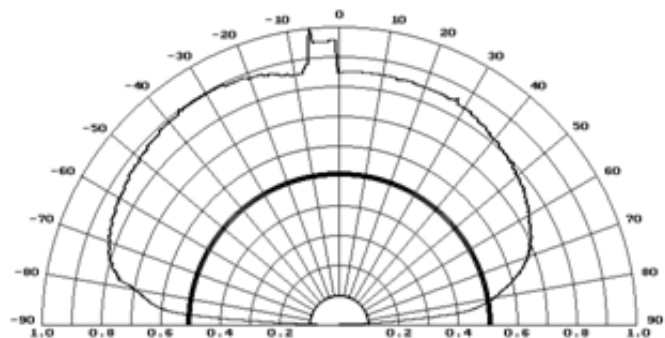


Forward Current vs. Forward Voltage



Forward Current (mA)

Directive Characteristics





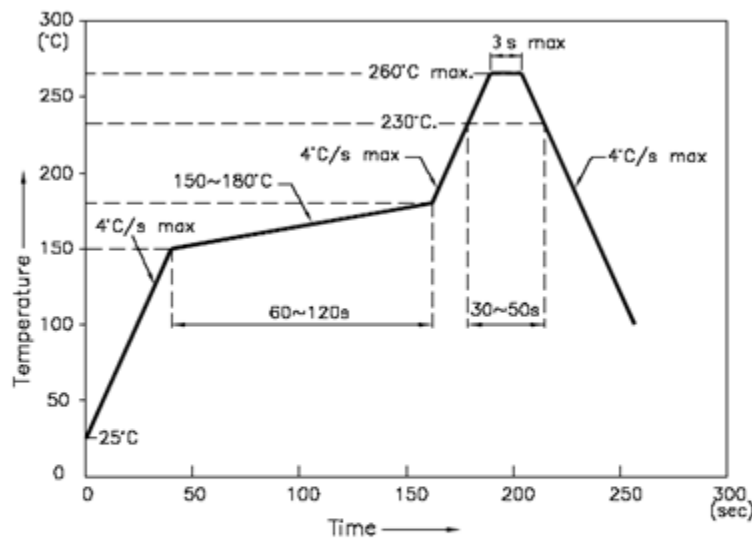
# Opto Plus LED Corp.

## OPL- BT1233WP-053

1.8mm Round Subminiature Solid State Rt. Angle Bend

### ● 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  $260^{\circ}\text{C}$ .
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  $260^{\circ}\text{C}$ . 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  $230^{\circ}\text{C}$ .



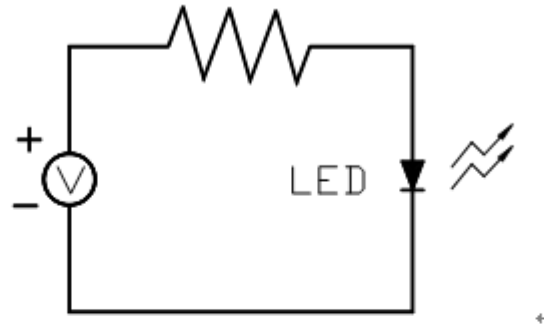
# Opto Plus LED Corp.

## OPL- BT1233WP-053

1.8mm Round Subminiature Solid State Rt. Angle Bend

### ● 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 ↵

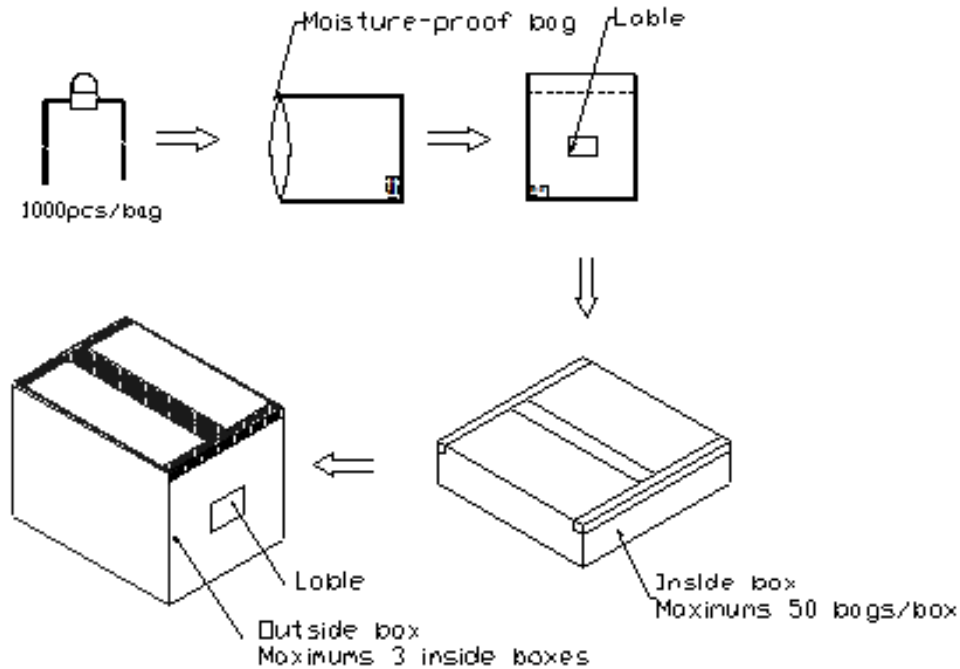


# Opto Plus LED Corp.

## OPL- BT1233WP-053

1.8mm Round Subminiature Solid State Rt. Angle Bend

### ● 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.