



# BRIGHT LED ELECTRONICS CORP.

## LED LAMPS SPECIFICATION

●COMMODITY : AXIAL TYPE LAMP

●DEVICE NUMBER : BL-X2361

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●ELECTRICAL AND OPTICAL CHARACTERISTICS (Ta=25°C)

VERSION : 1.0

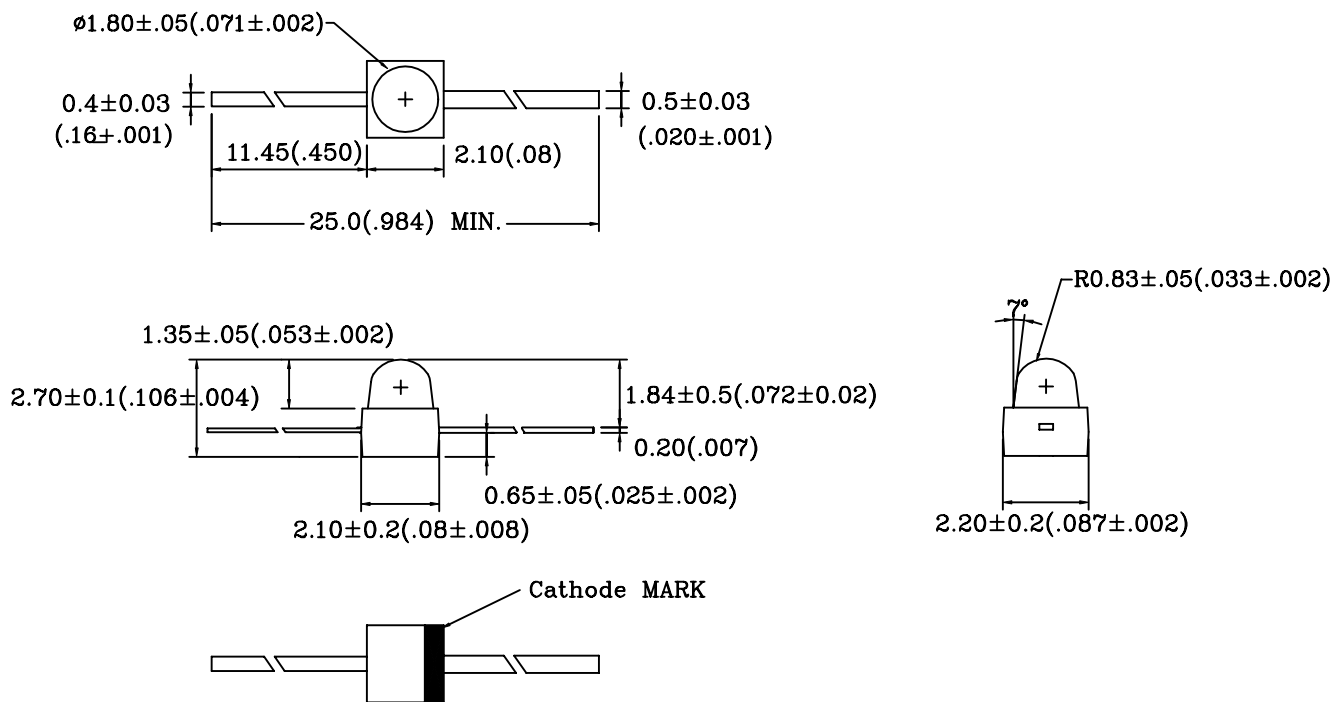
Chip		Lens Appearance	Absolute Maximum Rating				Electro-optical Data (At 10mA)			Viewing Angle 2θ 1/2 (deg)
Emitted Color	Peak Wave Length λ P(nm)		Δ λ (nm)	Pd (mW)	If (mA)	Peak If(mA)	Vf(V)		Iv Typ. (mcd)	
							Typ.	Max.		
Green	568	Water Clear	30	80	30	150	2.2	2.6	45.0	35

Remark : Viewing angle is the Off-axis angle at which the luminous intensity is half the axial luminous intensity.

●ABSOLUTE MAXIMUM RATINGS (Ta=25°C)

Reverse Voltage .....	5V
Reverse Current (-Vr=5V) .....	100μA
Operating Temperature Range .....	-55°C ~ 100°C
Storage Temperature Range .....	-55°C ~ 100°C
Lead Soldering Temperature .....	260°C For 5 Seconds

●PACKAGE DIMENSIONS



NOTES: 1.All dimensions are in millimeters (inches).

2.Tolerance is  $\pm 0.25$ mm (0.01") unless otherwise specified.

3.Lead spacing is measured where the leads emerge from the package.

4.Specifications are subject to change without notice.

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## AXIAL LED LAMPS SPECIFICATION

● COMMODITY: AXIAL TYPE LAMP

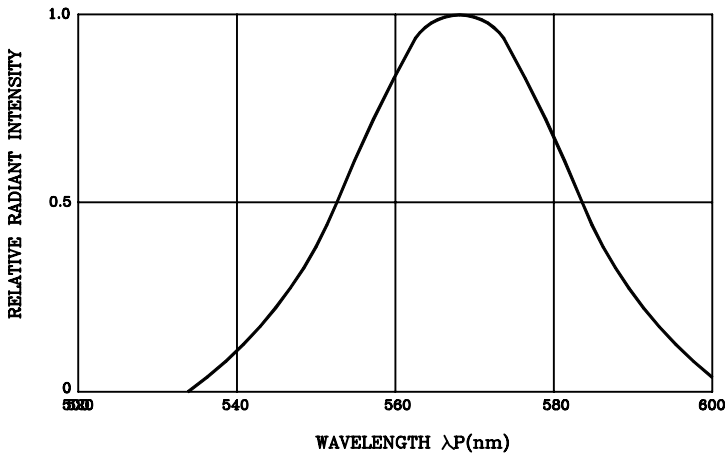
● DEVICE NUMBER: BL-X2361

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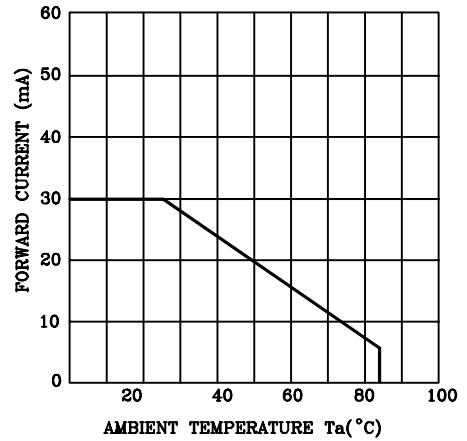
● ELECTRICAL AND OPTICAL CHARACTERISTICS(T<sub>a</sub>=25°C)

REVISION: 1.0

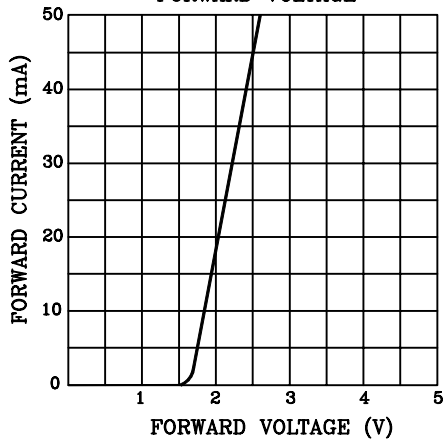
SPECTRAL DISTRIBUTION



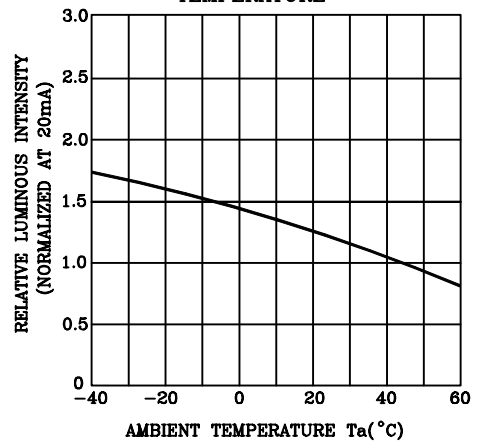
FORWARD CURRENT DERATING CURVE



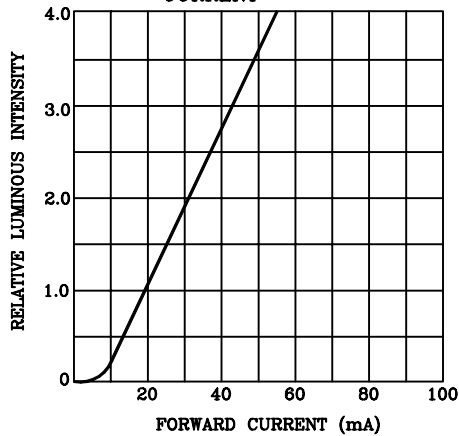
FORWARD CURRENT VS. FORWARD VOLTAGE



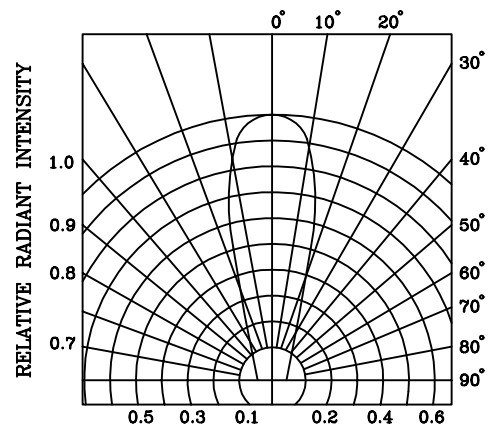
RELATIVE LUMINOUS INTENSITY VS. AMBIENT TEMPERATURE



RELATIVE LUMINOUS INTENSITY VS. FORWARD CURRENT



RADIATION DIAGRAM



# BRIGHT LED ELECTRONICS CORP.

## SURFACE MOUNT CHIP LED LAMP SPECIFICATION

### RELIABILITY TEST

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Classification	Test Item	Reference Standard	Test Conditions	Result
Endurance Test	Operation Life	MIL-STD-750:1026 MIL-STD-883:1005 JIS C 7021 :B-1	Connect with a power $I_f=20\text{mA}$ $T_a$ =Under room temperature Test time=1,000hrs	0/20
	High Temperature High Humidity Storage	MIL-STD-202:103B JIS C 7021 :B-11	$T_a=+65^\circ\text{C}\pm 5^\circ\text{C}$ RH=90%-95% Test time=1,000hrs	0/20
	High Temperature Storage	MIL-STD-883:1008 JIS C 7021 :B-10	High $T_a=+85^\circ\text{C}\pm 5^\circ\text{C}$ Test time=1,000hrs	0/20
	Low Temperature Storage	JIS-C-7021 :B-12	Low $T_a=-35^\circ\text{C}\pm 5^\circ\text{C}$ Test time=1,000hrs	0/20
Environmental Test	Temperature Cycling	MIL-STD-202:107D MIL-STD-750:1051 MIL-STD-883:1010 JIS C 7021 :A-4	$-35^\circ\text{C} \sim +25^\circ\text{C} \sim +85^\circ\text{C} \sim +25^\circ\text{C}$ 60min 20min 60min 20min Test Time=5cycle	0/20
	Thermal Shock	MIL-STD-202:107D MIL-STD-750:1051 MIL-STD-883:1011	$+85^\circ\text{C}\pm 5^\circ\text{C} \sim -35^\circ\text{C}\pm 5^\circ\text{C}$ 20min 20min Test Time=10cycle	0/20
	Solder Resistance	MIL-STD-202:201A MIL-STD-750:2031 JIS C 7021 :A-1	Preheating : $140^\circ\text{C} - 160^\circ\text{C}$ , within 2 minutes. Operation heating : $235^\circ\text{C}$ (Max.), within 10 seconds.(Max.)	0/20

### JUDGMENT CRITERIA OF FAILURE FOR THE RELIABILITY

Measuring items	Symbol	Measuring conditions	Judgement criteria for failure
Forward voltage	VF ( V )	$I_f=20\text{mA}$	Over $U_x1.2$
Reverse current	IR(uA)	VR=5V	Over $U_x2$
Luminous intensity	IV ( mcd )	$I_f=20\text{mA}$	Below $SX0.5$

Note: 1.U means the upper limit of specific characteristics. S means initial value.

2.Measurement shall be taken between 2 hours and after the test pieces have been returned to normal ambient conditions after completion of each test.

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## SURFACE MOUNT CHIP LED LAMP SPECIFICATION

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### 1. SOLDERING :

#### ● Manual Of Soldering

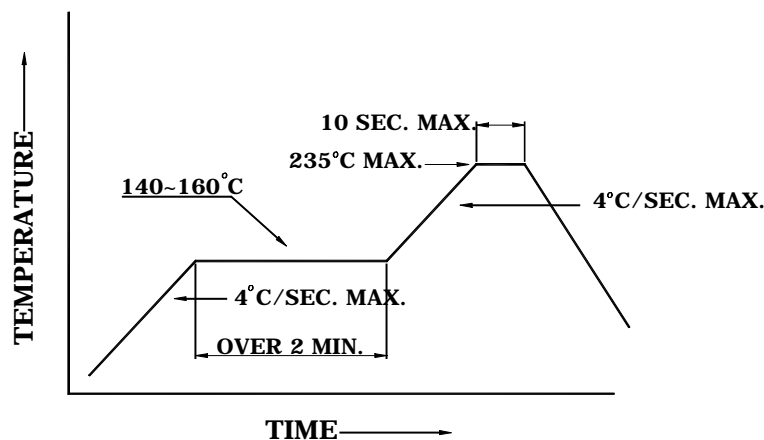
The temperature of the iron tip should not be higher than 300°C (572°F) and Soldering within 3 seconds per solder-land is to be observed.

#### ● Reflow Soldering

Preheating : 140°C~160°C ±5°C, within 2 minutes.

Operation heating : 235°C (MAX.) within 10 seconds.(Max)

Gradual Cooling (Avoid quenching).

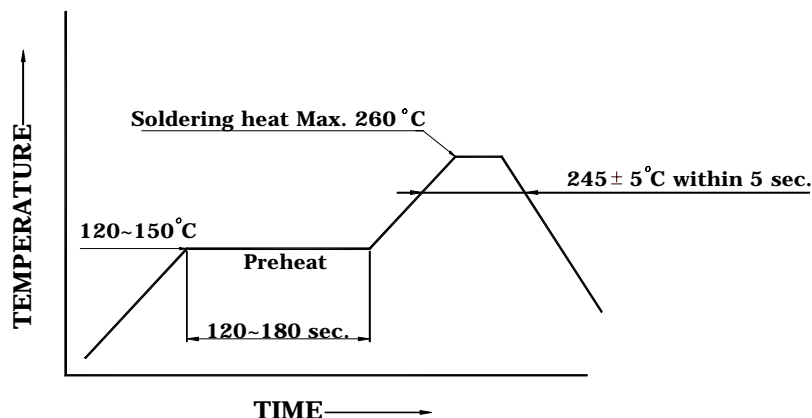


#### ● DIP soldering (Wave Soldering)

Preheating : 120°C~150°C, within 120~180 sec.

Operation heating : 245°C ±5°C within 5 sec. 260°C (Max)

Gradual Cooling (Avoid quenching).



### 2. Handling :

Care must be taken not to cause to the epoxy resin portion of BRIGHT LEDs while it is exposed to high temperature.

Care must be taken not rub the epoxy resin portion of BRIGHT LEDs with hard or sharp article such as the sand blast and the metal hook

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## SURFACE MOUNT CHIP LED LAMP SPECIFICATION

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### 3. Notes for designing :

Care must be taken to provide the current limiting resistor in the circuit so as to drive the BRIGHT LEDs within the rated figures. Also, caution should be taken not to overload BRIGHT LEDs with instantaneous voltage at the turning ON and OFF of the circuit.

When using the pulse drive care must be taken to keep the average Current within the rated figures. Also, the circuit should be designed so as to be subjected to reverse voltage when turning off the BRIGHT LEDs.

### 4. Storage :

BRIGHT LEDs as soon as possible after unpacking the sealed envelope. If the envelope is still packed, to store it in the environment as following :

- (1) Temperature : 5°C-30°C (41°F) Humidity : RH 60% Max.
- (2) After this bag is opened, devices that will be applied to infrared reflow, vapor-phase reflow, or equivalent soldering process must be:
  - a. Completed within 24 hours.
  - b. Stored at less than 30% RH.
- (3) Devices require baking before mounting, if:
  - (2) a or (2) b is not met.
- (4) If baking is required, devices must be baked under below conditions:  
12 hours at 60°C ± 3°C.

### 5. Package and Marking of Products:

In order to avoid the absorption of moisture .It is recommended to solder

- (1) Package: Products are packed in one bag of 3000 pcs (one taping reel) and a label is attached on each bag.
- (2) Marking:

