



**PARA LIGHT ELECTRONICS CO., LTD.**  
11F, No.8, Jiankang Rd,Zhonghe Dist,New Taipei City 253, Taiwan  
Tel: 886-2-2225-3733 Fax: 886-2-2225-4800  
E-mail: [para@para.com.tw](mailto:para@para.com.tw) <http://www.para.com.tw>

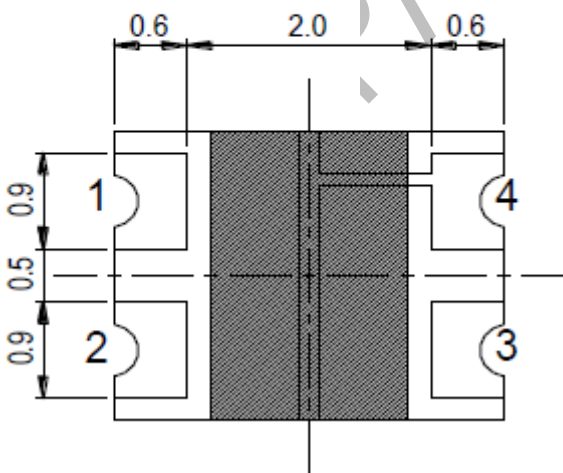
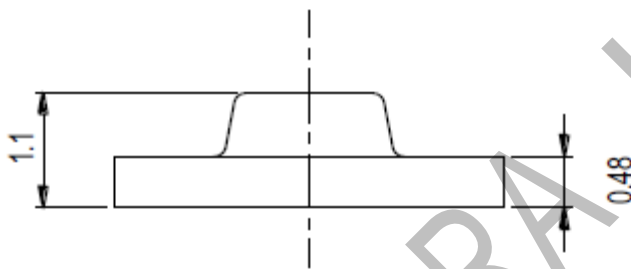
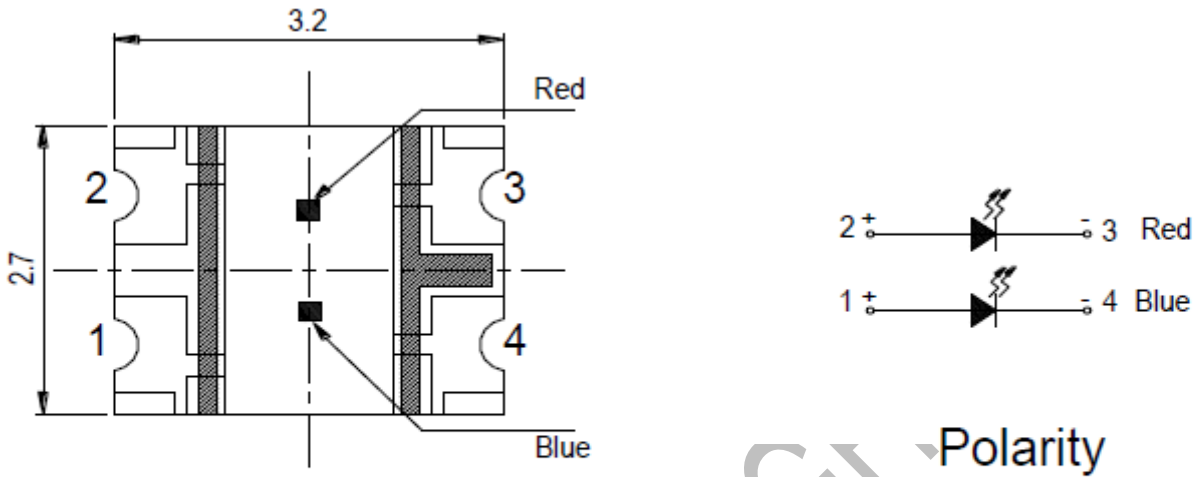
## DATA SHEET

PART NO. : L-C155LBJECT-HD

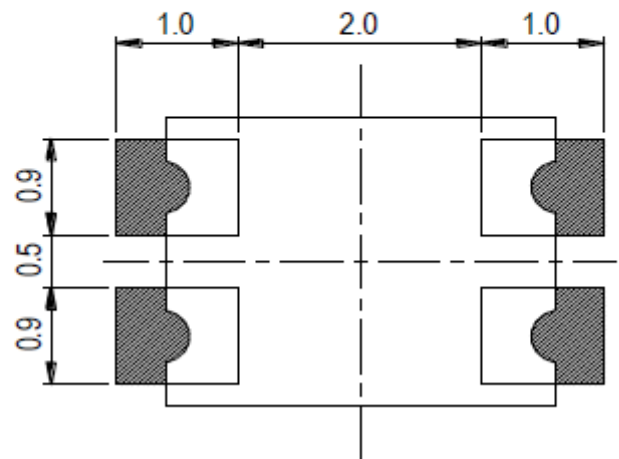
REV : A / 1

CUSTOMER'S APPROVAL : \_\_\_\_\_ DCC : \_\_\_\_\_

PACKAGE DIMENSIONS



Recommended Solder Pad



Note:  
Tolerance unless mentioned is  $\pm 0.1$ mm, Unit = mm



3.2\*2.7\*1.1 mm SMD LED

L-C155LBJECT-HD

REV:A / 1

FEATURES

- \* 3.2\*2.7\*1.1 mm SMD LED
- \* Top view LED
- \* Compatible with infrared and vapor phase reflow solder process
- \* Wide viewing angle

CHIP MATERIALS

- \* Dice Material : InGaN / AlInGaP
- \* Light Color : Blue & Red
- \* Lens Color : WATER CLEAR

ABSOLUTE MAXIMUM RATING : ( Ta = 25°C )

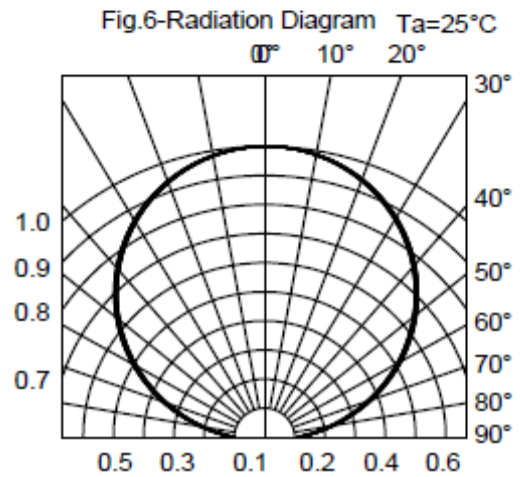
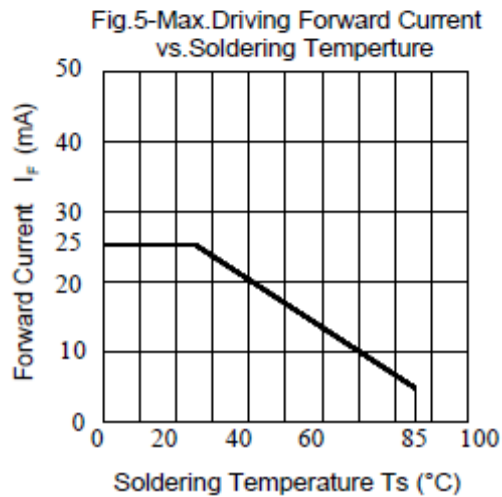
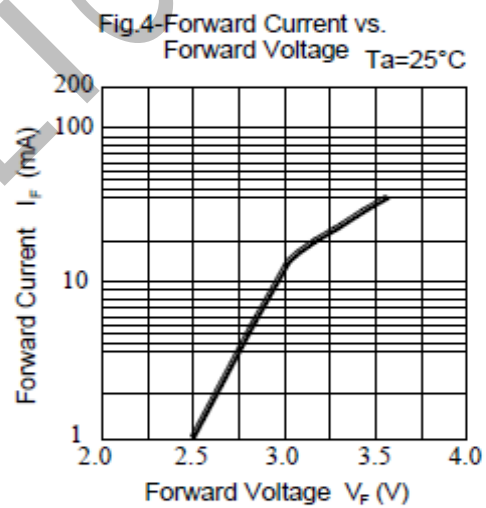
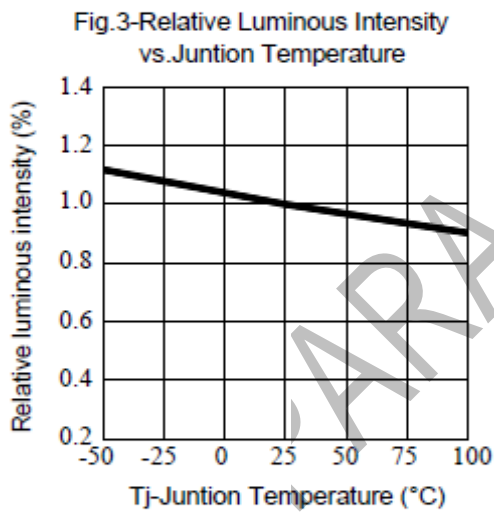
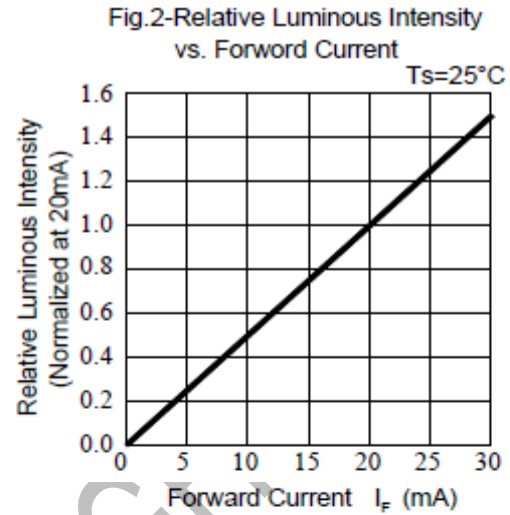
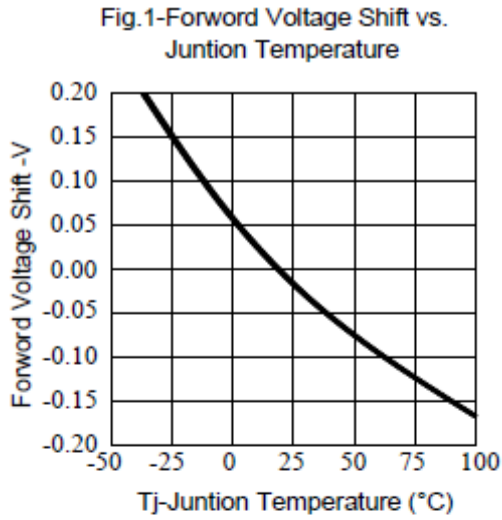
SYMBOL	PARAMETER	RATING		UNIT
		LB	JE	
PD	Power Dissipation	95	60	mW
If	Forward Current	25		mA
Ifp	Peak Forward Current (1/10 duty cycle 0.1ms)	100	60	mA
ESD	Electrostatic Discharge Threshold(HBM)	2000	2000	V
Topr	Operating Temperature Range	-30°C ~85°C		°C
Tstg	Storage Temperature Range	-40°C ~100°C		°C
Tsol	Soldering Temperature	Reflow Soldering 260°C For 10 SEC Hand Soldering 350°C For 3 SEC		

ELECTRO-OPTICAL CHARACTERISTICS : ( Ta = 25°C )

SYMBOL	PARAMETER	TEST CONDITION	VALUE			UNIT
			MIN.	TYP.	MAX.	
VF	Forward Voltage	IF = 20mA	LB	2.7	3.5	V
			JE	1.7	2.4	
IR	Reverse Current	VR = 5V			10	µA
λp	Peak Emission Wavelength	IF = 20mA	LB	470		nm
			JE	632		
λD	Dominant Wavelength	IF = 20mA	LB	460	475	nm
			JE		624	
2θ1/2	Half Intensity Angle	IF = 20mA		120		deg
Iv	Luminous Intensity	IF = 20mA	LB	112	285	mcd
			JE	112	285	

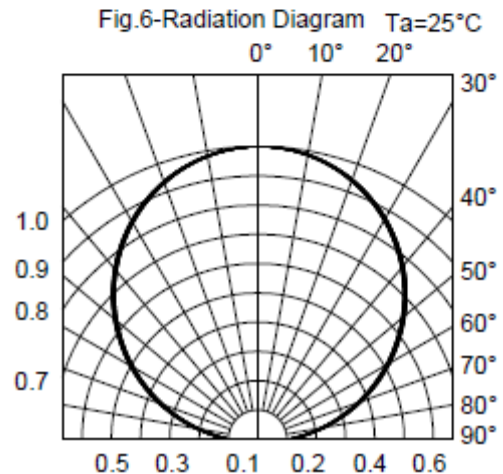
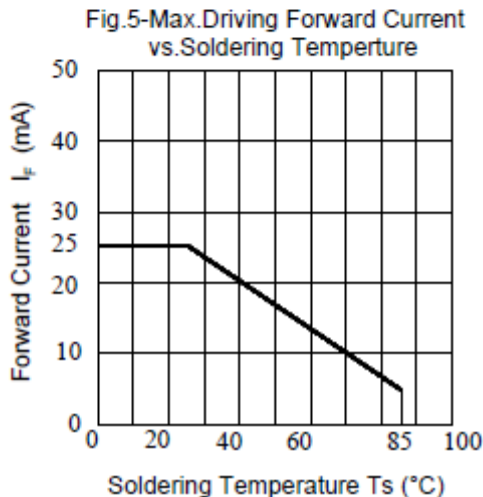
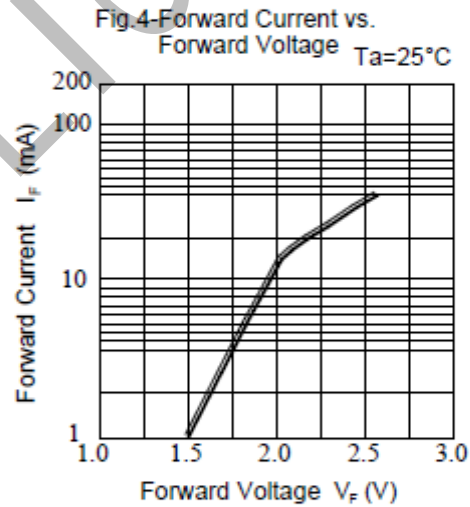
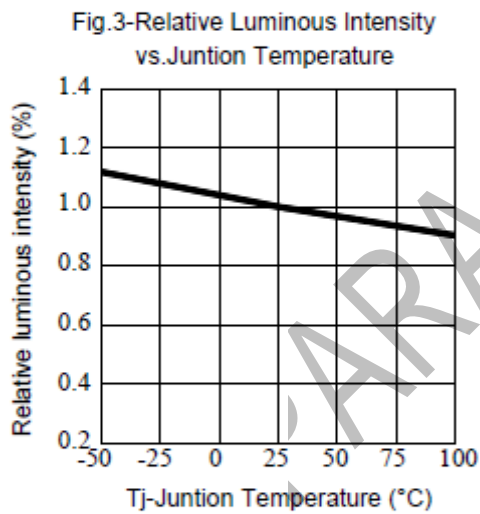
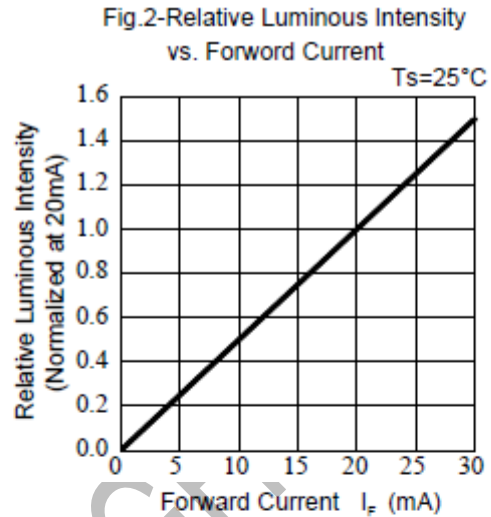
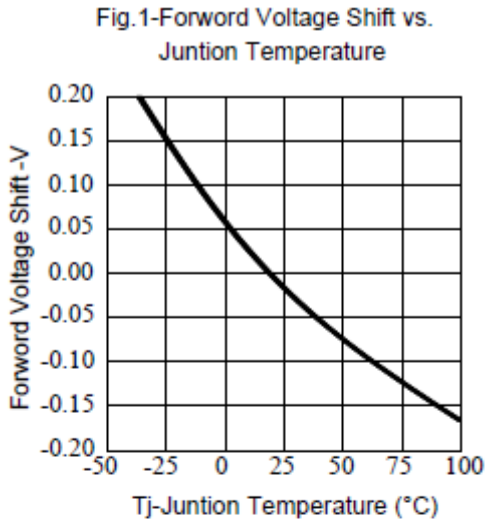
Typical Electro-Optical Characteristics Curves  
(25°C Ambient Temperature Unless Otherwise Noted)

Blue:



Typical Electro-Optical Characteristics Curves  
(25°C Ambient Temperature Unless Otherwise Noted)

Red:





3.2\*2.7\*1.1 mm SMD LED

L-C155LBJEECT-HD

REV:A / 1

**Bin Code Description**

**Bin Range of Luminous Intensity (LB)**

Bin Code	Min.	Max.	Unit	Condition
R	112	180	mcd	I <sub>F</sub> =20mA
S	180	285		

**Bin Range of Luminous Intensity(JE)**

Bin Code	Min.	Max.	Unit	Condition
R	112	180	mcd	I <sub>F</sub> =20mA
S	180	285		

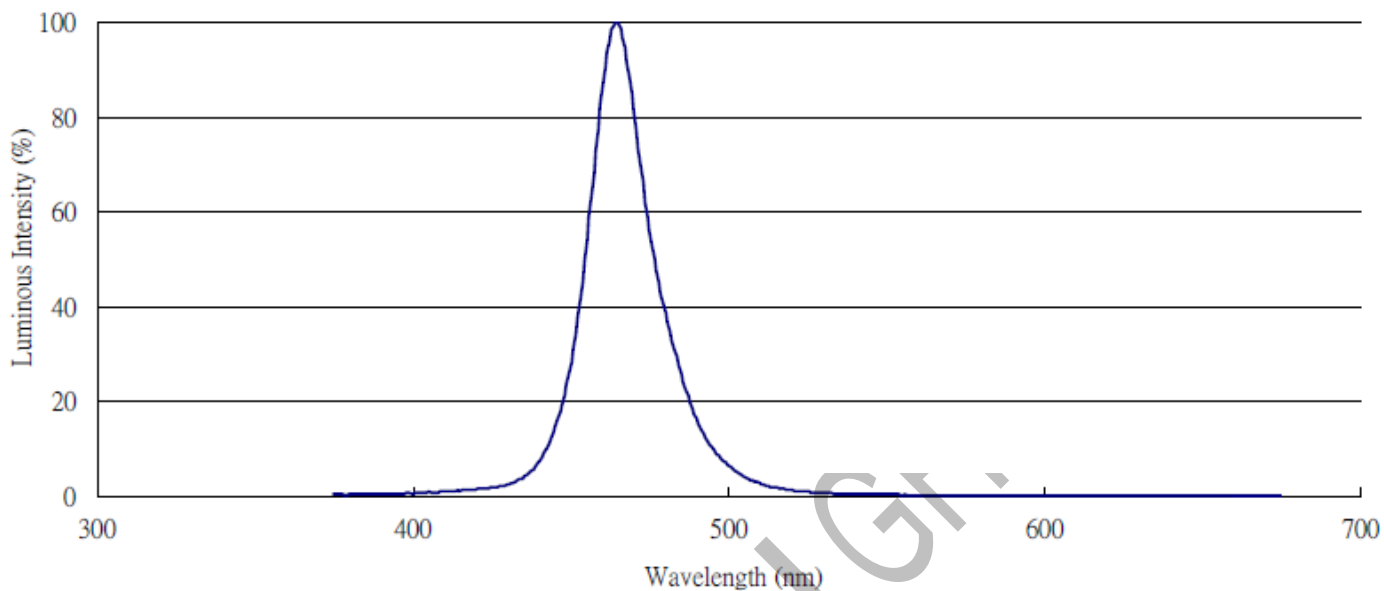
Note:  
Tolerance of Luminous Intensity:  $\pm 10\%$ .

**Bin Range of Dominant Wavelength(LB)**

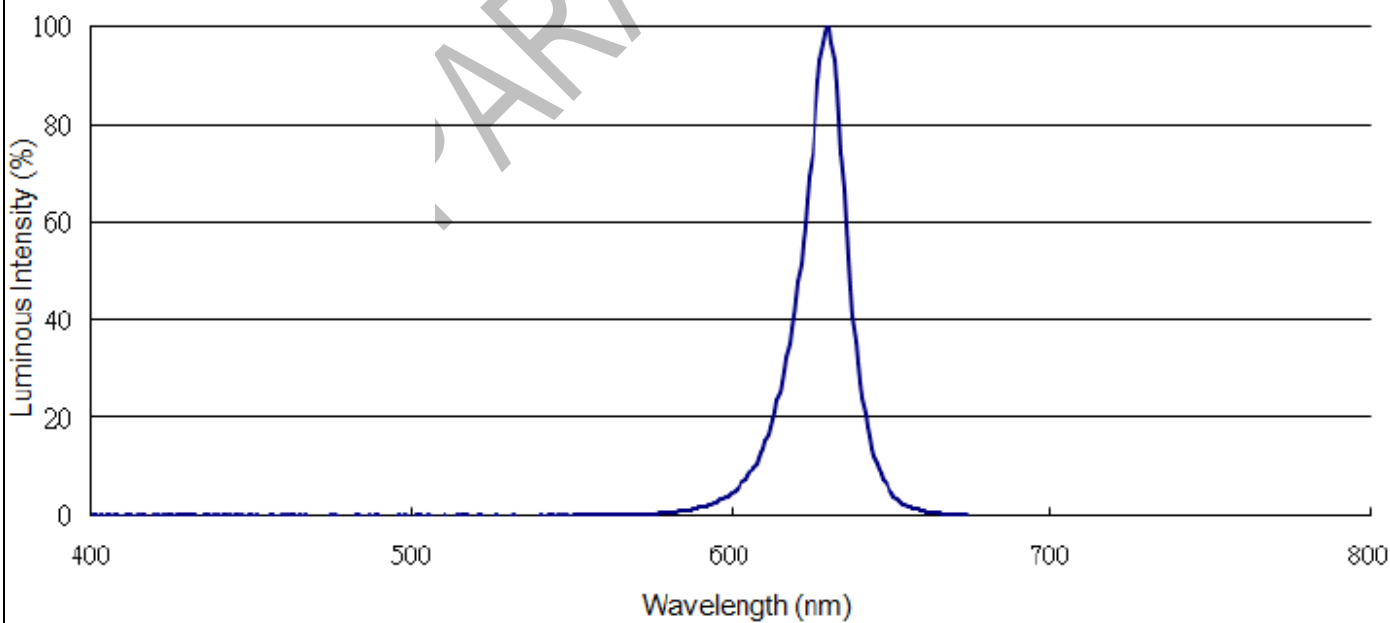
Bin Code	Min.	Max.	Unit	Condition
A5	460	465	nm	I <sub>F</sub> =20mA
A6	465	470		
A7	470	475		

Note:  
Tolerance of Dominant Wavelength:  $\pm 1\text{nm}$

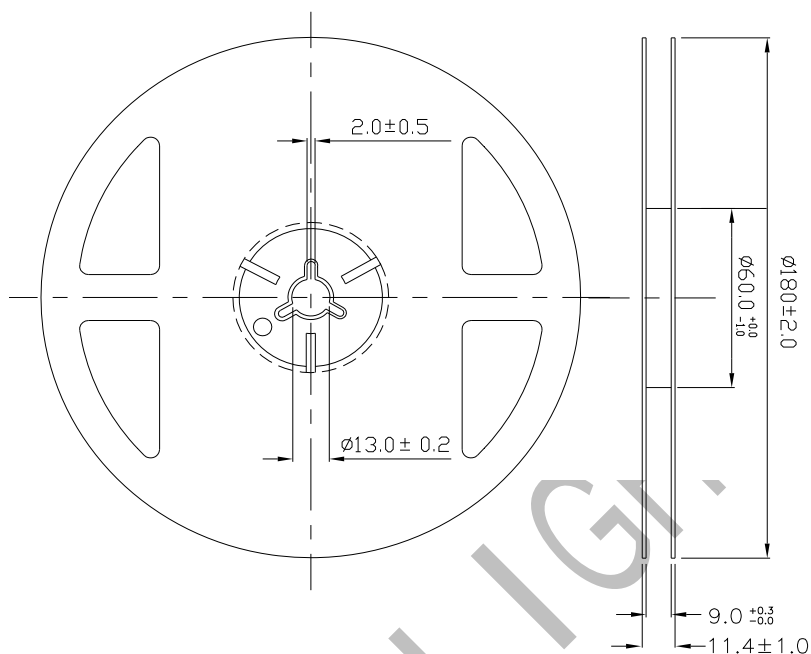
**Spectrum Distribution(LB)**



**Spectrum Distribution(JE)**



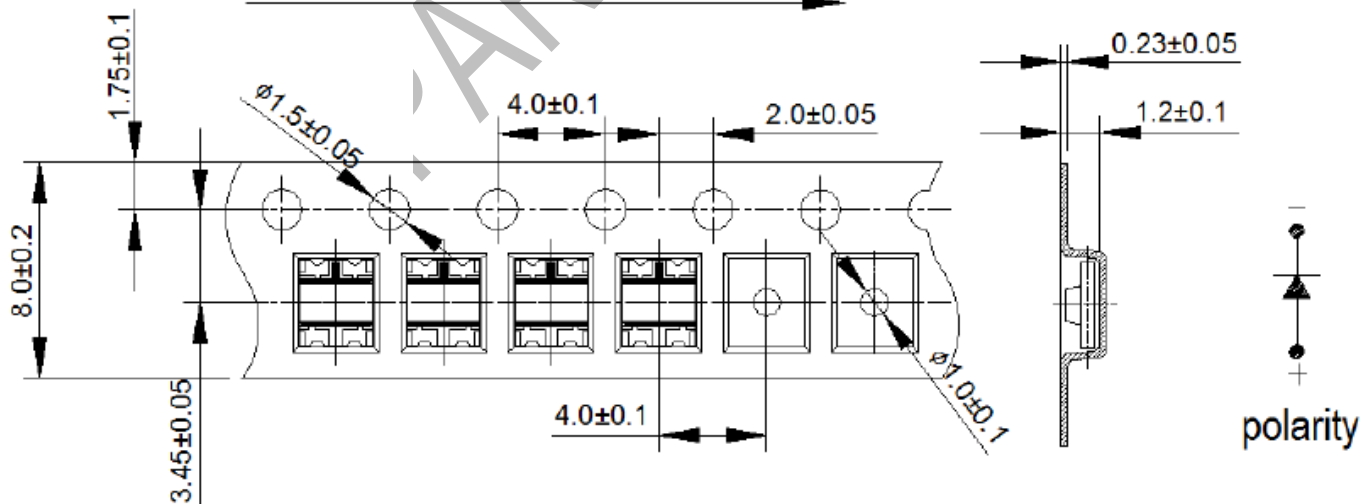
Reel Dimensions



Note:  
Tolerances unless mentioned  $\pm 0.1$  mm, Unit = mm

Carrier Tape Dimensions: Loaded Quantity 2000 pcs Per Reel

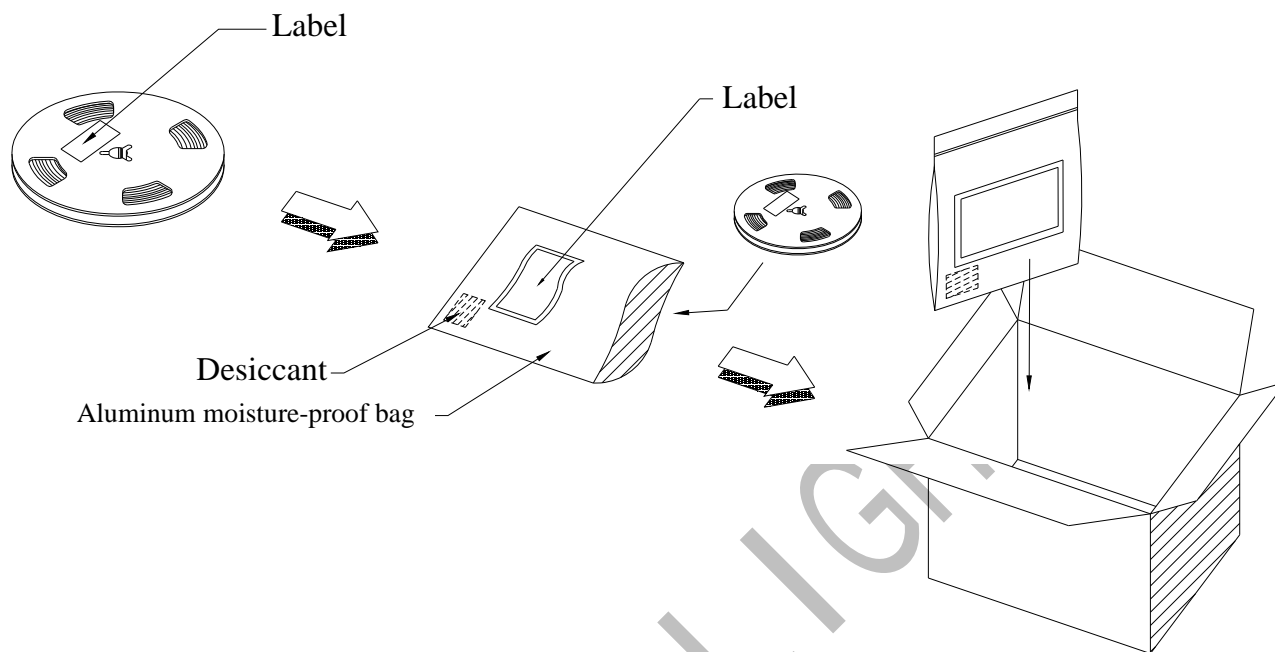
Progressive direction



Note:  
1. Tolerance unless mentioned is  $\pm 0.1$  mm, Unit = mm.  
2. Minimum packing amount is 1000 pcs per reel.  
3. Maximum packing amount is 2000 pcs per reel.



**Moisture Resistant Packing Process**



**Reliability Test Items and Conditions**

The reliability of products shall be satisfied with items listed below.

Confidence level : 90%

LTPD : 10%

No.	Items	Test Condition	Test Hours/Cycles	Sample Size	Ac/Re
1	Reflow Soldering	Temp. : 260°C/10sec.	6 Min.	22 PCS.	0/1
2	Thermal Shock	H : +100°C 5min ∩ 10 sec L : -10°C 5min	300 Cycles	22 PCS.	0/1
3	Temperature Cycle	H : +100°C 15min ∩ 5 min L : -40°C 15min	300 Cycles	22 PCS.	0/1
4	High Temperature/Humidity Reverse Bias	Ta=85°C,85%RH	1000 Hrs.	22 PCS.	0/1
5	Low Temperature Storage	Ta=-40°C	1000 Hrs.	22 PCS.	0/1
6	High Temperature Storage	Ta=100°C	1000 Hrs.	22 PCS.	0/1
7	DC Operation Life	Ta=25°C, I <sub>F</sub> = 20 mA	1000 Hrs.	22 PCS.	0/1

**Precautions for Use**

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 Do not open moisture proof bag before the products are ready to use.

2.2 Before opening the package: The LEDs should be kept at 30°C or less and 90%RH or less.

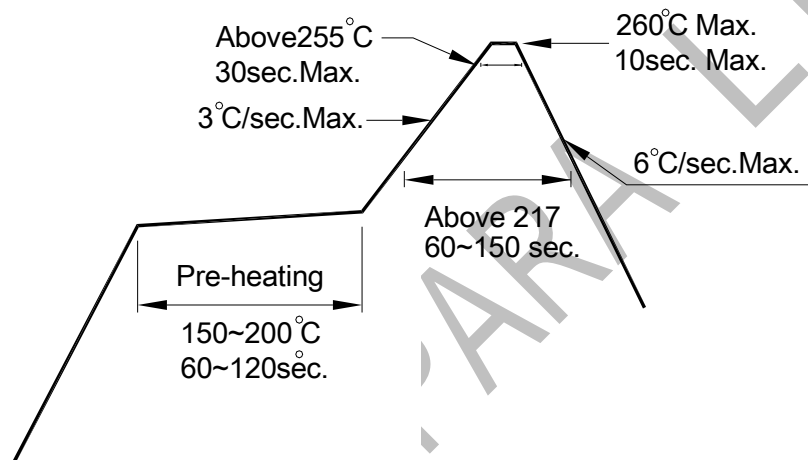
2.3 After opening the package: The LED's floor life is 1 year under 30°C or less and 60% RH or less. If unused LEDs remain, it should be stored in moisture proof packages.

2.4 If the moisture absorbent material (silica gel) has faded away or the LEDs have exceeded the storage time, baking treatment should be performed using the following conditions.

Baking treatment: 60±5°C for 24 hours.

3. Soldering Condition

3.1 Pb-free solder temperature profile



3.2 Reflow soldering should not be done more than two times.

3.3 When soldering, do not put stress on the LEDs during heating.

3.4 After soldering, do not warp the circuit board.

4. Soldering Iron

Each terminal is to go to the tip of soldering iron temperature less than 350°C for 3 seconds within once in less than the soldering iron capacity 25W. Leave two seconds and more intervals, and do soldering of each terminal. Be careful because the damage of the product is often started at the time of the hand solder.

5. Repairing

Repair should not be done after the LEDs have been soldered. When repairing is unavoidable, a double-head soldering iron should be used (as below figure). It should be confirmed beforehand whether the characteristics of the LEDs will or will not be damaged by repairing.