



BRIGHTTEK
BRIGHTTEK (EUROPE) LIMITED

APPROVAL SHEET

CUSTOMER: _____

CUSTOMER PART NO. _____

TYPE NO.: N0W02S38

PACKAGE SIZE: 2.0 x 1.25 x 0.8mm SMD LED (0805 Series)

DICE MATERIAL: InGaN Chromaticity Coordinate: x=0.31 y=0.33

EMITTED COLOR: White VIEWING ANGLE (deg): 130

LENS COLOR: Water Clear IV(mcd): 600

TYPE NO. : N0W02S38

ELECTRICAL / OPTICAL CHARACTERISTICS AT Ta = 25°C

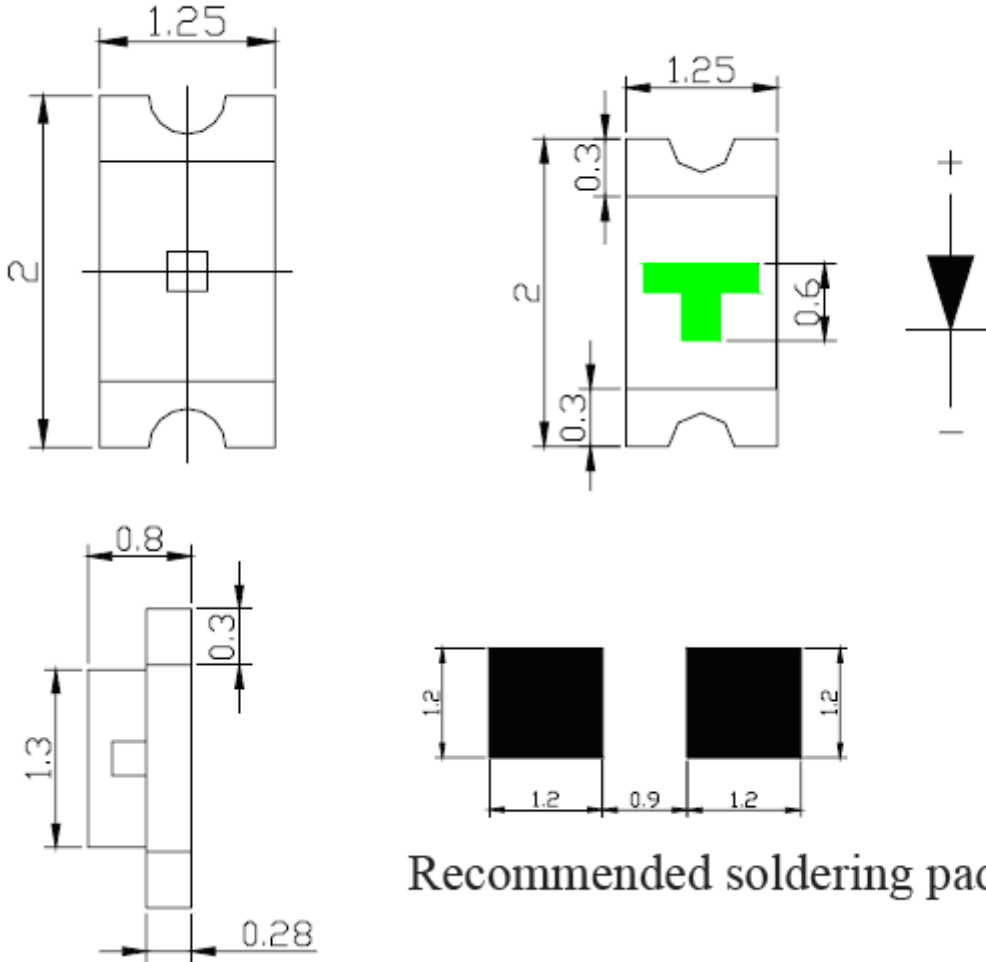
PARAMETER	SYMBOL	MIN	TYP	MAX	UNIT	TEST
Luminous Intensity	IV	500	600	720	mcd	IF = 20mA
Viewing Angle	2 θ 1/2		130		deg	
Chromaticity Coordinate	X	0.26	0.31	0.37	nm	
Chromaticity Coordinate	Y	0.24	0.33	0.39	nm	
Spectral Line Half-Width	$\Delta\lambda$				nm	
Forward Voltage	VF	3.0	3.1	3.5	V	
Power Dissipation	Pd			85	mW	
Peak Forward Current (Duty1/10 @ 1KHZ)	IF (Peak)			100	mA	
Recommended Operating Current	IF (Rec)		20		mA	

● **ABSOLUTE MAXIMUM RATINGS** : (Ta = 25°C)

Reverse Voltage	: 5 Volt
Reverse Current	: 10 uA (VR=5V)
Electrostatic Discharge (ESD)	: 200 Volt
Operating Temperature Range	: -40°C TO 85°C
Storage Temperature Range	: -40°C TO 100°C
Lead Soldering Temperature Range 【 1.6 mm (1/16 inch) from body 】	: 260°C For 5 Seconds

SMD LED PACKAGE DIMENSIONS

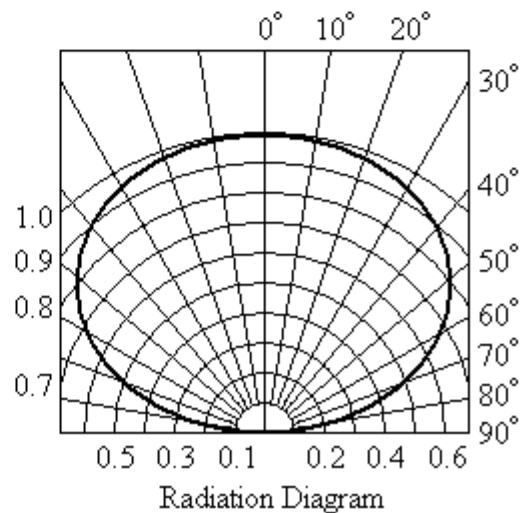
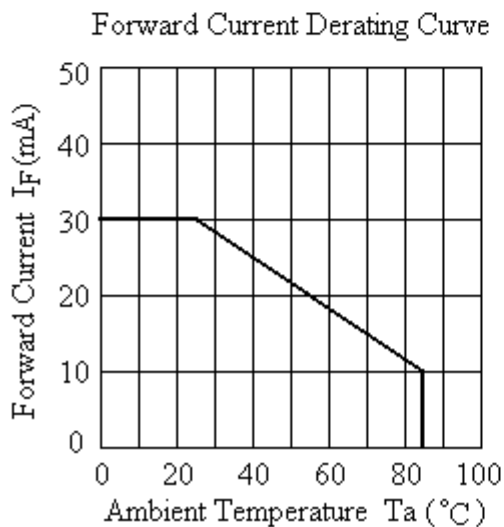
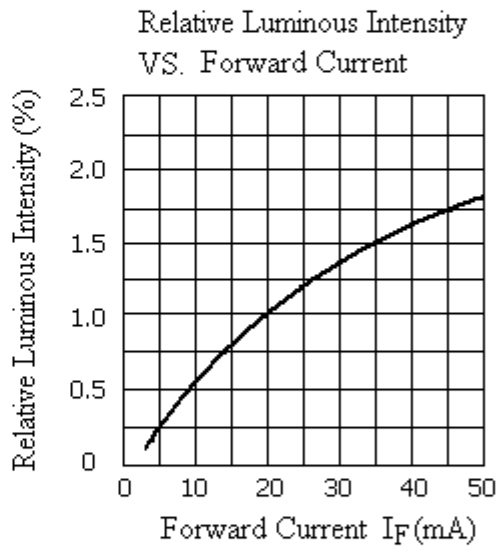
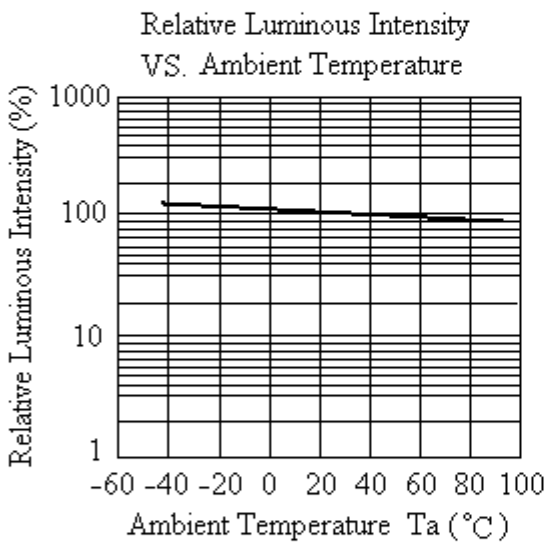
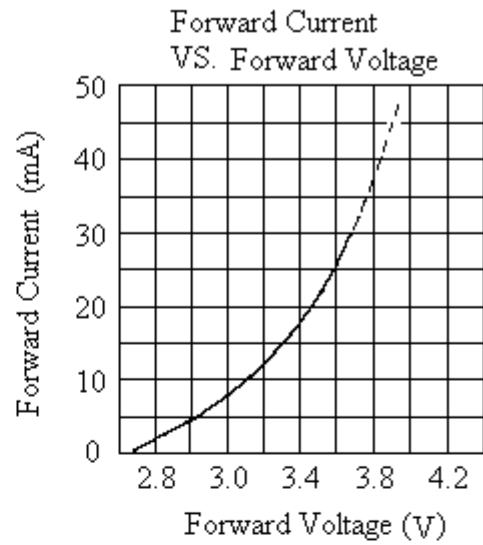
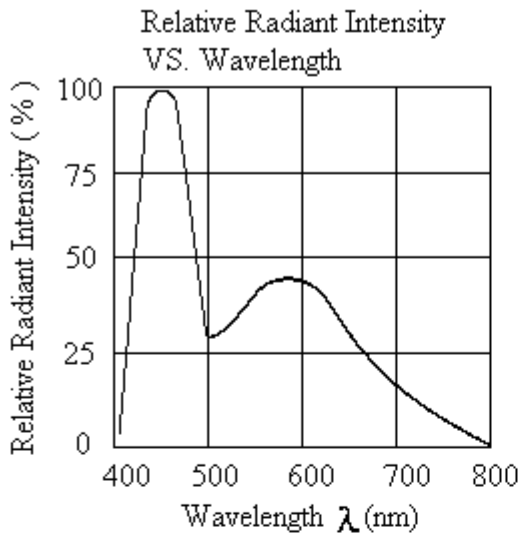
Package Outline Dimensions:



Recommended soldering pad design

DEVICE NO.: N0W02S38	DRAWING NO.	ENGINEER
ALL TOLERANCE SHALL BE ±0.008 inch/0.2mm UNLESS OTHERWISE NOTED	DRAWING DATE	APPROVER

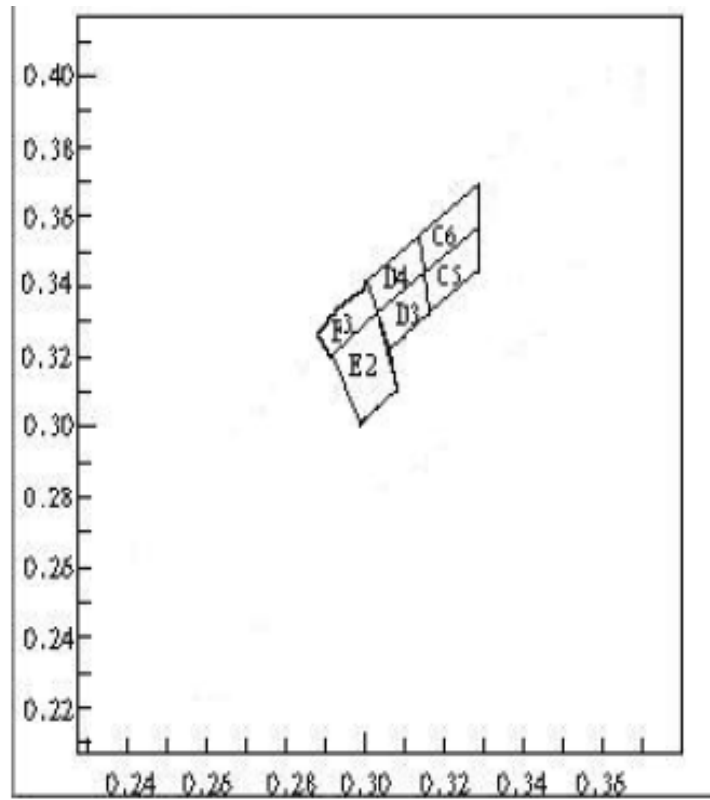
White Typical Electrical Optical Characteristics Curves ($T_a=25^\circ\text{C}$ Ambient Temperature Unless Otherwise Noted)



Reliability test For LED Lamps

Type No. :N0W02S38

NO.	Item	Test Conditions	Test Time/ Cycle	Sample Size	Ac/Re
1	DC Operating Life	Temperature:25°C IF:20mA	1000HRS	20PCS	0/1
2	High Temperature High Humidity	Temperature:85°C 85%RH	1000HRS	20PCS	0/1
3	High Temperature Storage	Temperature:100°C	1000HRS	20PCS	0/1
4	Low Temperature Storage	Temperature: -40°C	1000HRS	20PCS	0/1
5	Temperature Cycling	85°C ~ 25°C ~ -35°C 15min~ 5min~ 15min	15Cycles	20PCS	0/1
6	Thermal Shock	85°C ~ 25°C ~ -10°C 5min~ 10sec ~ 5min	15Cycles	20PCS	0/1
7	Solder Heat	Temperature:260°C±5°C	10SEC.	20PCS	0/1



Bin Range of Chromaticity Coordinate

X1	Y1	X2	Y2	X3	Y3	X4	Y4	BIN
0.329	0.345	0.316	0.333	0.315	0.344	0.329	0.357	C5
0.329	0.369	0.329	0.357	0.315	0.344	0.314	0.355	C6
0.306	0.322	0.303	0.333	0.315	0.344	0.316	0.333	D3
0.301	0.342	0.314	0.355	0.315	0.344	0.303	0.333	D4
0.308	0.311	0.299	0.301	0.292	0.321	0.303	0.333	E2
0.303	0.333	0.292	0.321	0.301	0.342	0.29	0.33	E3

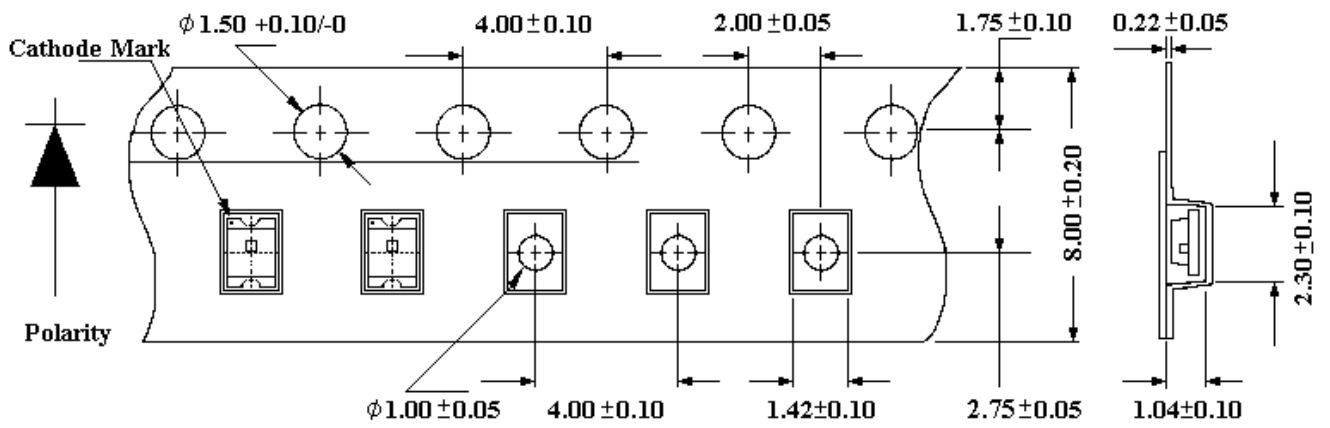
Bin Range of Luminous Intensity

Min	Max	Unit	BIN
500	600	mcd	A
600	720		B

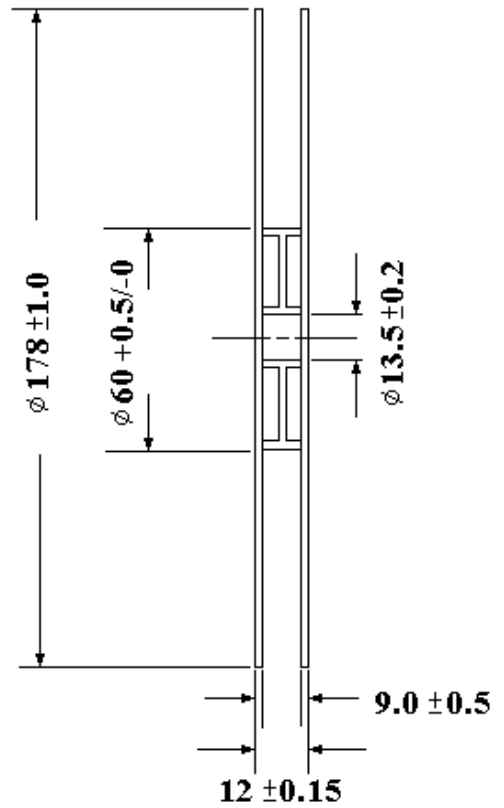
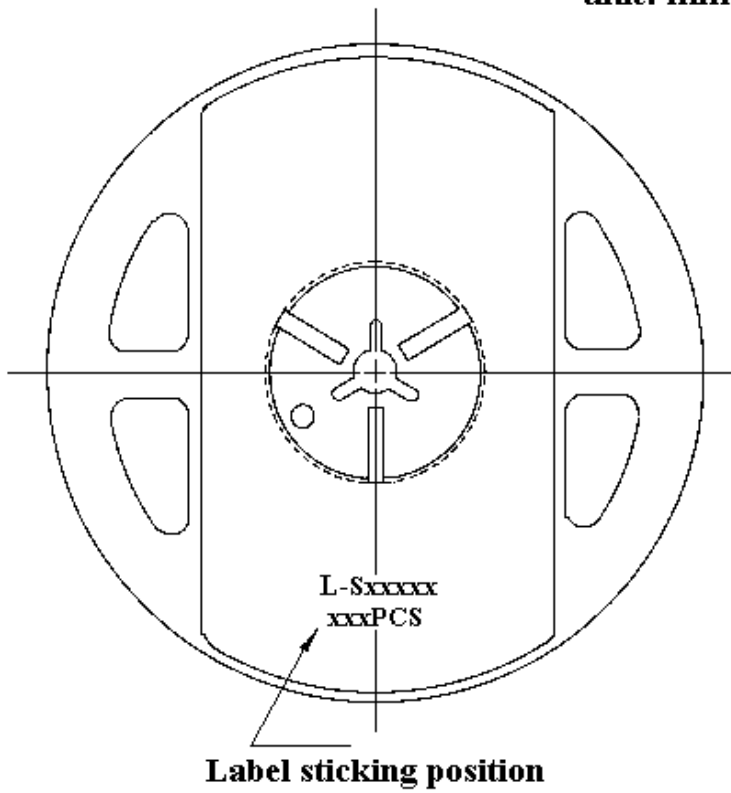
Bin Range of Forward Voltage

Min	Max	Unit	BIN
2.9	3.0	V	Q
3.0	3.1		R
3.1	3.2		S
3.2	3.3		T
3.3	3.4		U
3.4	3.5		V

Carrier Tape Dimensions: Loaded quantity 4000PCS per reel



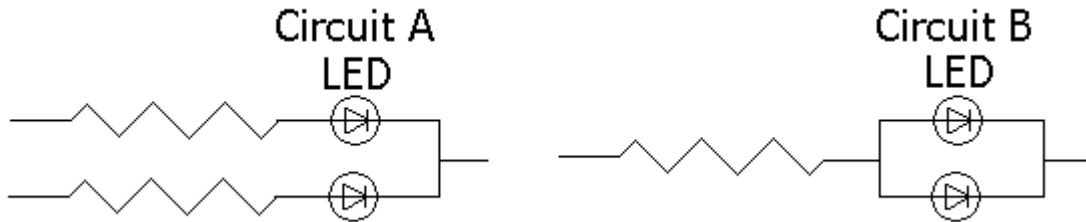
unit: mm



Precautions For Use LED

1. Drive Method

LED is current-operated device. In order to ensure intensity uniformity on multiple LEDs connected in parallel in a application, it is recommended that a current limiting resistor be incorporated in the drive circuit.



(a) Circuit A it is recommended circuit.

(b) Circuit B the brightness of each LED might appear different due to the differences in the I-V characteristics of those LEDs.

2. Over-current-proof

Customer must apply resistors for protection , otherwise slight voltage shift will cause big current change(Burn out will happen).

3. Storage

The Storage Temperature and RH are: $5^{\circ}\text{C} \sim 30^{\circ}\text{C}$, RH 60% or less.

Once the package is opened, the products should be used with in a week. Otherwise, they should be kept in moisture proof package with moisture absorbent material (silica gel).

we suggest our customers to use our products within a year.

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

Baking treatment: more than 24 hours at $60^{\circ}\text{C} \pm 5^{\circ}\text{C}$.

4. Electrostatic Discharge (ESD)

Static electricity or surge voltage will damage the LEDs

Suggestions to prevent ESD damage:

Use of a conductive wrist band or ante-electrostatic glove when handing these LEDs

All devices, equipment, and machinery must be properly grounded.

Work tables storage racks, etc. should be properly grounded

In the events of manual working in process, make sure the devices are well protected from ESD at any time.

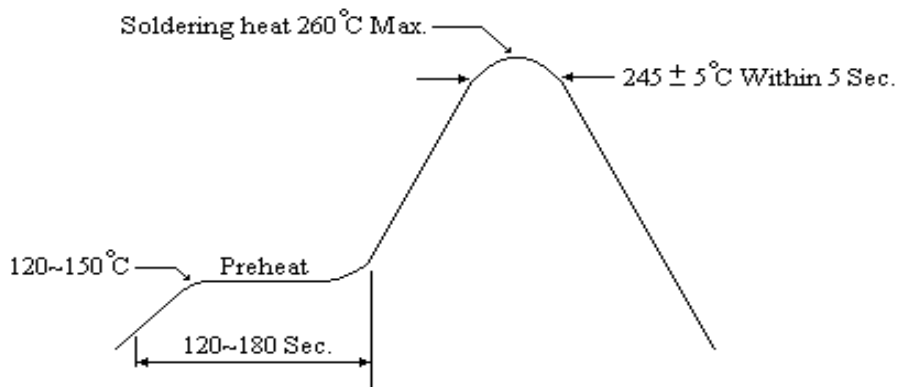
5. Others

- (a) If want to have the uniform luminance and color, please use the same binning number, and avoid using intermix to cause the differences of luminance and color.
- (b) The appearance and specifications of the product may be modified for improvement without prior notice.

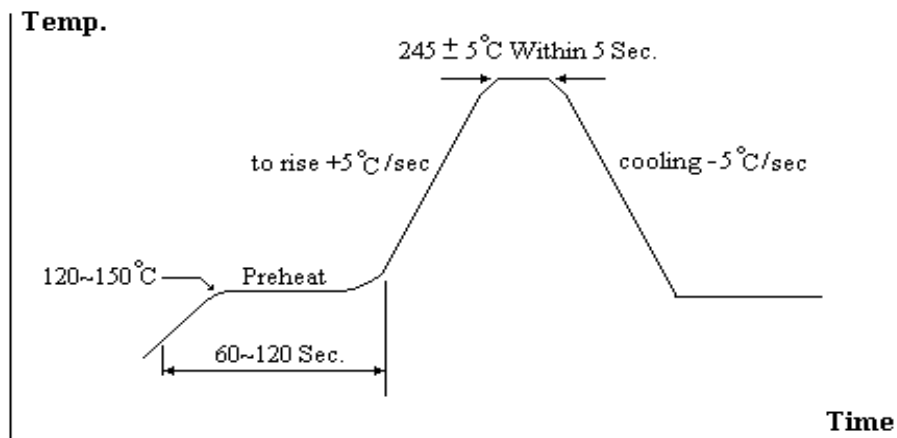
6. Soldering

Recommended soldering condition as shown below:

Soldering heat (DIP)



Reflow Temp./Time



Soldering Iron

Temperature at tip of iron : 300°C Max. (25 W Max.)

Soldering Time : 3 sec. ± 1 sec.(one time only)

If temperature is higher, time should be shorter