

## Side view LEDs

### 57-21-Y2SC-AS1T1B-BF



#### Features

- P-LCC-4 package.
- Colored diffused resin.
- Wide viewing angle 120°.
- Inner reflector and white package.
- Brightness: 180 to 360 mcd at each of 20 mA
- Precondition: Bases on JEDEC J-STD 020D Level "3".

#### Applications

- Backlight: LCD, switches, symbol, mobile phone and illuminated advertising.
- Display for indoor and outdoor application.
- Ideal for coupling into light guides.
- Substitution of traditional light.
- Optical indicator.
- General applications.

## Device Selection Guide

Chip Type	Chip Material	Emitted Color	Resin Color
Y2S	AlGaInP	Brilliant Yellow	Water clear

## Absolute Maximum Ratings (Ta=25°C)

Parameter	Symbol	Rating	Unit
Reverse Voltage	$V_R$	5	V
Forward Current	$I_F$	50	mA
Power Dissipation	$P_d$	120	mW
ESD(Classification acc. AEC Q101)	$ESD_{HBM}$	2000	V
Operating Temperature	$T_{opr}$	-40 ~ +85°C	
Storage Temperature	$T_{stg}$	40~ +90°C	
Soldering Temperature	$T_{sol}$	Reflow Soldering : 260 °C for 10 sec. Hand Soldering : 350 °C for 3 sec.	

## Electro-Optical Characteristics (Ta=25°C)

Parameter	Symbol	Min.	Typ.	Max.	Unit	Condition
Luminous Intensity	$I_v$	180	---	360	mcd	$I_F=20mA$
Viewing Angle	$2\theta_{1/2}$	----	120	----	deg	$I_F=20mA$
Peak Wavelength	$\lambda_p$	----	591	----	nm	$I_F=20mA$
Dominant Wavelength	$\lambda_d$	585.5	----	594.5	nm	$I_F=20mA$
Spectrum Radiation Bandwidth	$\Delta\lambda$	----	20	----	nm	$I_F=20mA$
Forward Voltage	$V_F$	1.75	----	2.35	V	$I_F=20mA$
Reverse Current	$I_R$	----	----	10	$\mu A$	$V_R=5V$

Note:

1. Tolerance of Luminous Intensity:  $\pm 11\%$
2. Tolerance of Dominant Wavelength:  $\pm 1nm$
3. Tolerance of Forward Voltage:  $\pm 0.1V$

## Bin Range of Luminous Intensity

Bin Code	Min.	Max.	Unit	Condition
S1	180	225	mcd	If=20mA
S2	225	285		
T1	285	360		

Note:  
Tolerance of Luminous Intensity:  $\pm 11\%$

## Bin Range of Dominant Wavelength

Group	Bin Code	Min.	Max.	Unit	Condition
A	D3	585.5	588.5	nm	If=20mA
	D4	588.5	591.5		
	D5	591.5	594.5		

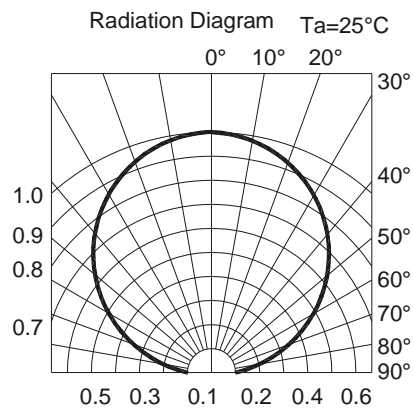
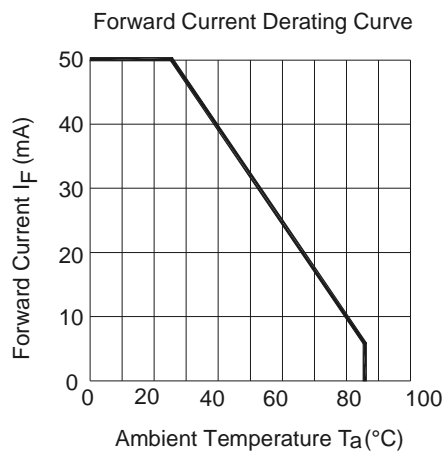
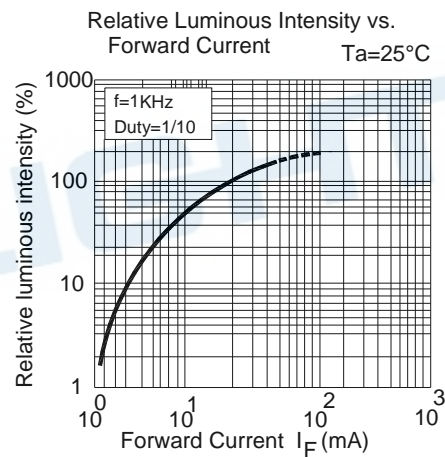
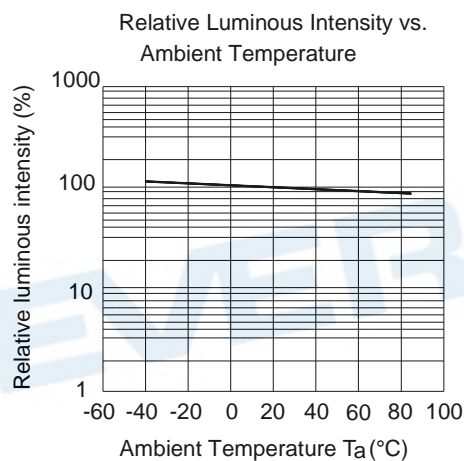
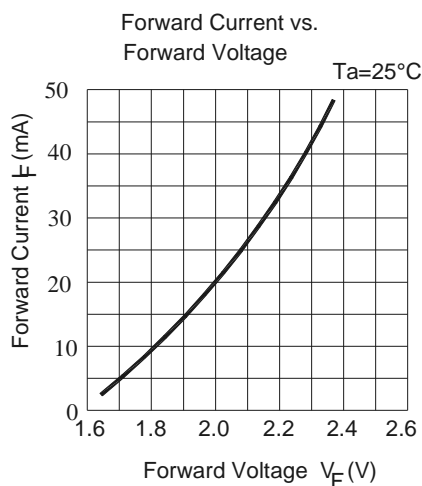
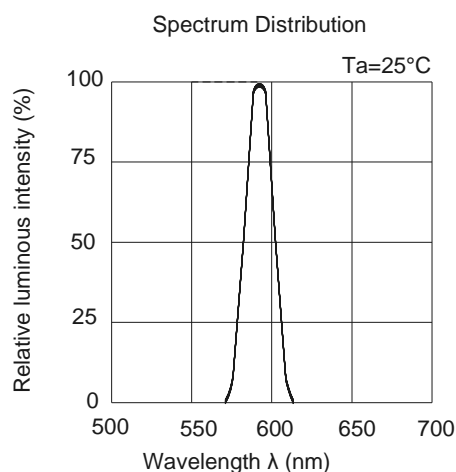
Note:  
Tolerance of Dominant Wavelength:  $\pm 1\text{nm}$

## Bin Range of Forward Voltage

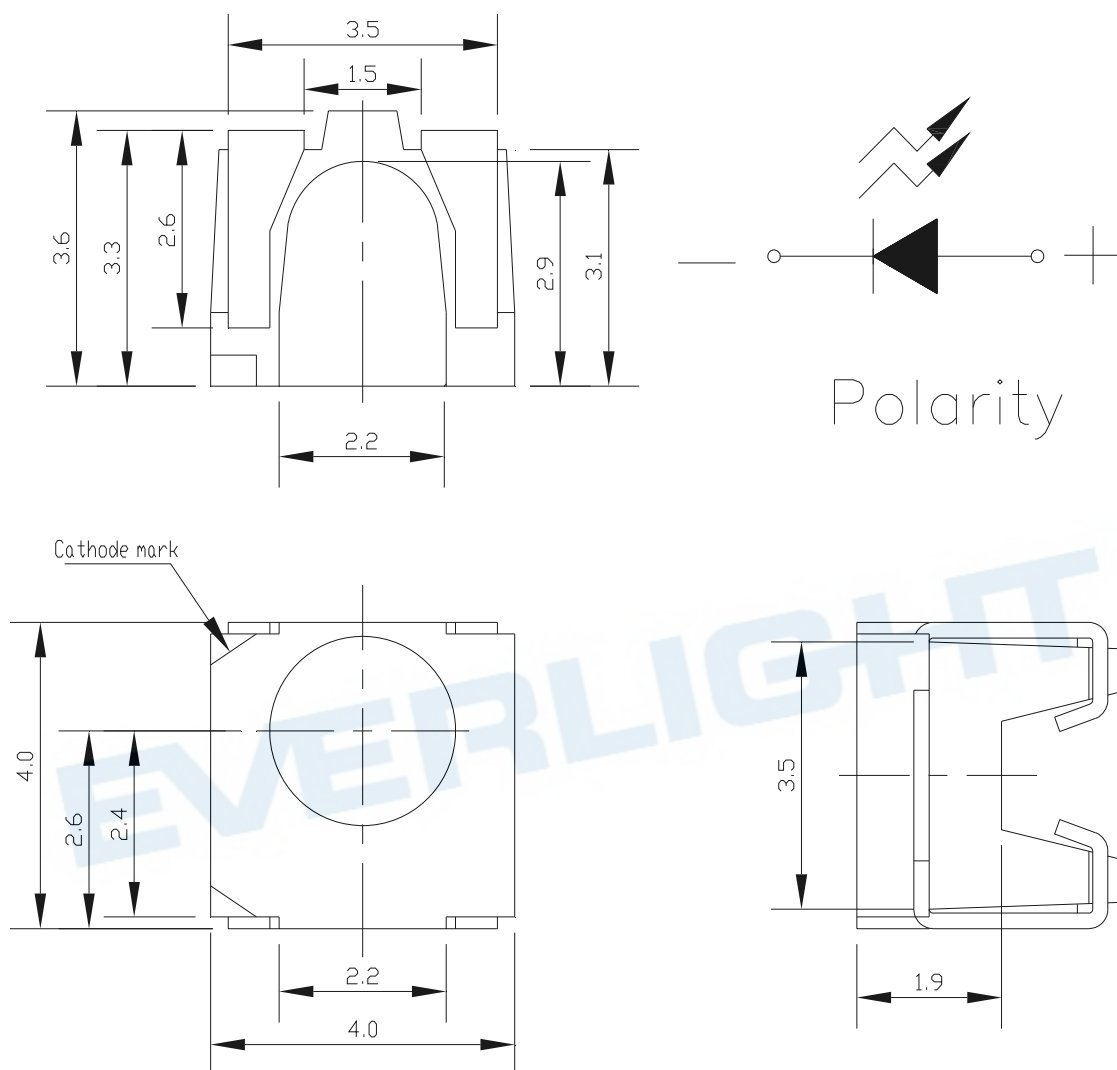
Group	Bin Code	Min.	Max.	Unit	Condition
B	0	1.75	1.95	V	If=20mA
	1	1.95	2.15		
	2	2.15	2.35		

Note:  
Tolerance of Forward Voltage:  $\pm 0.05\text{V}$

## Typical Electro-Optical Characteristics Curves



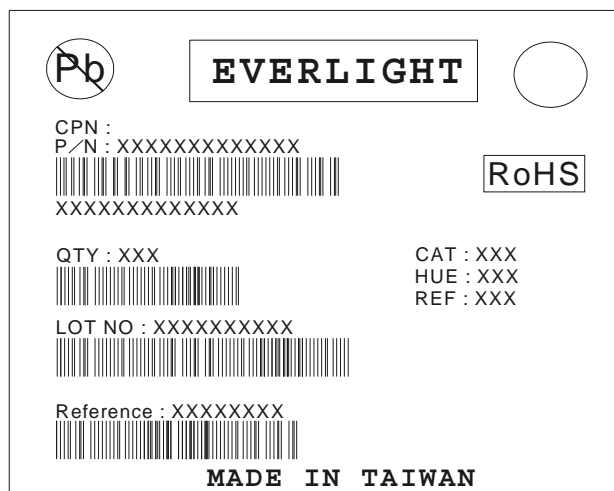
## Package Dimensions



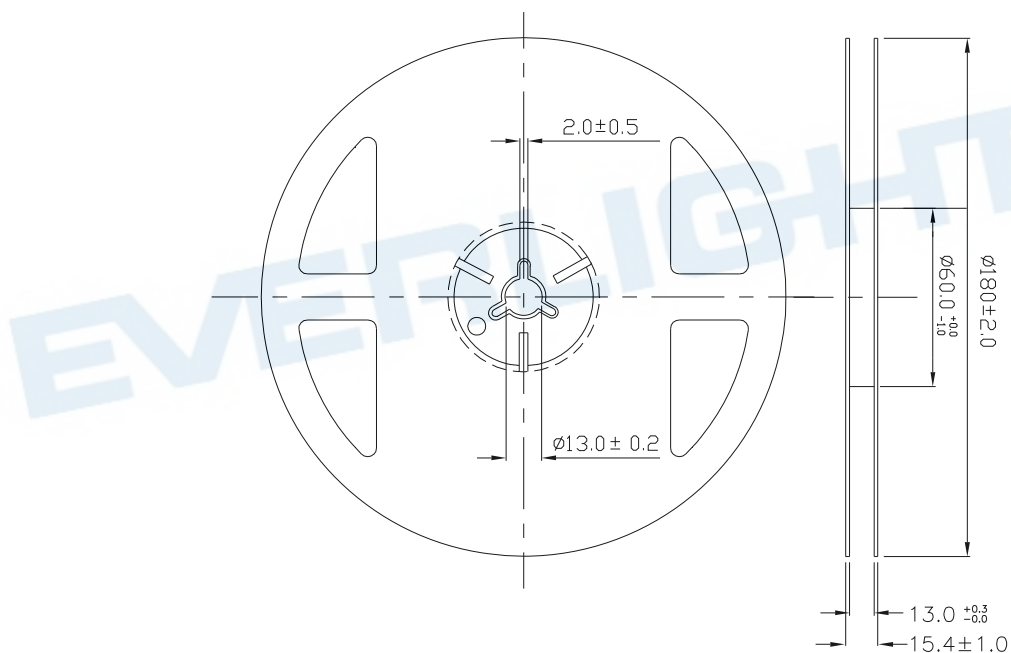
**Note:** Tolerances unless mentioned are  $\pm 0.1$  mm, unit = mm.

## Label Explanation

CAT: Luminous Intensity Rank  
HUE: Dom. Wavelength Rank  
REF: Forward Voltage Rank

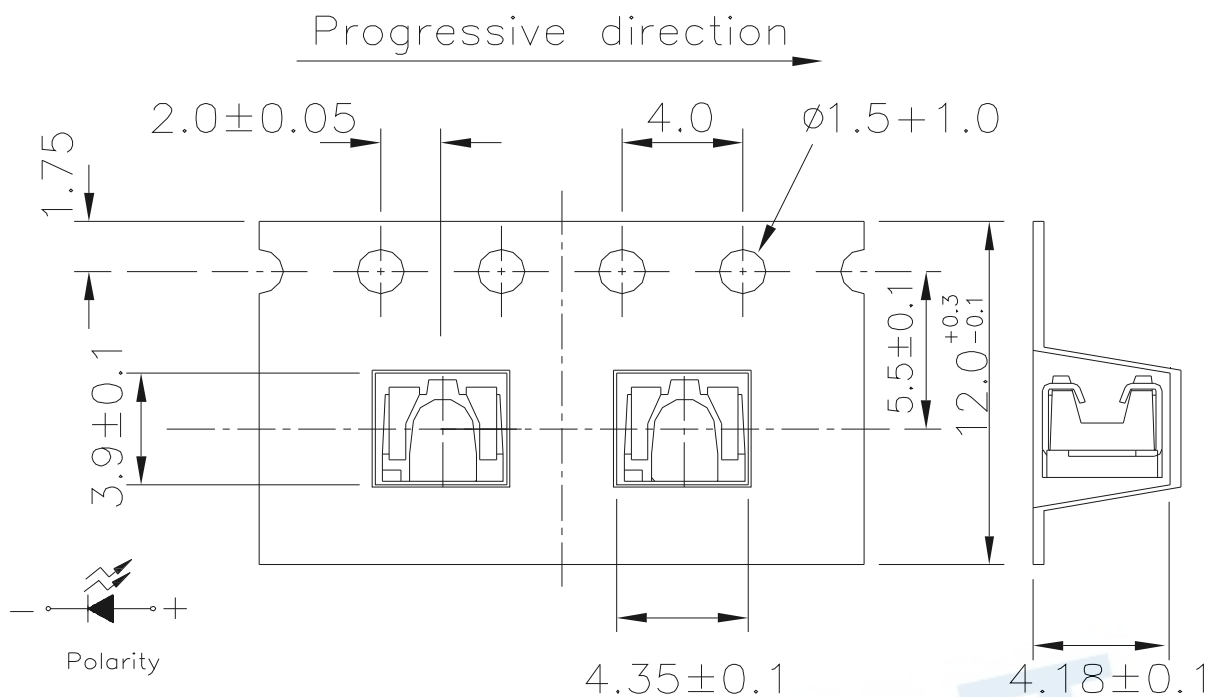


## Reel Dimensions



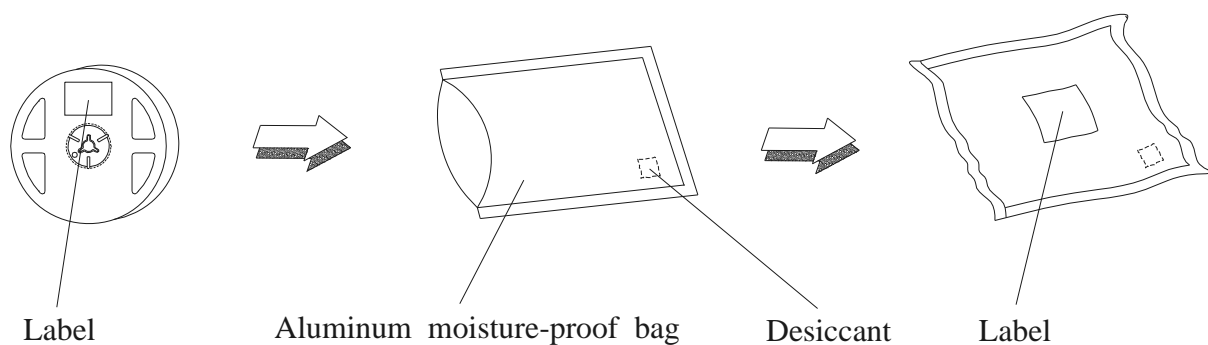
**Note:** Tolerance unless mentioned is  $\pm 0.1$ mm; Unit = mm

**Carrier Tape Dimensions: Loaded Quantity 500 pcs Per Reel**



**Note:** Tolerances unless mentioned is  $\pm 0.1\text{mm}$ ; Unit = mm

**Moisture Resistant Packaging**



## 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.

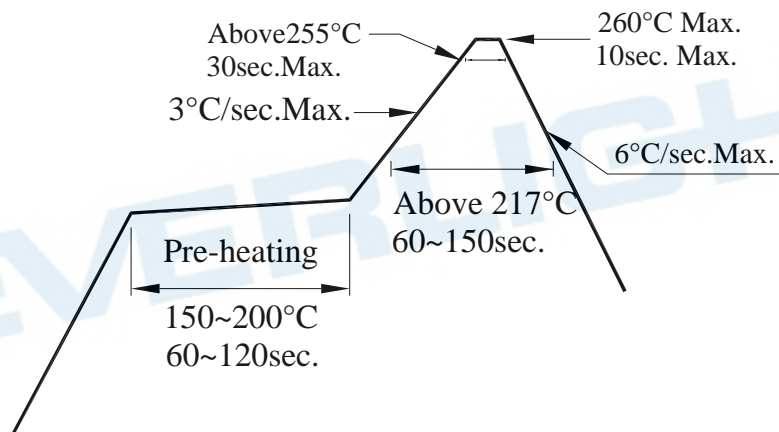
2.3 After opening the package: The LED's floor life is 168 hours under 30°C or less and 60% RH or less.

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.

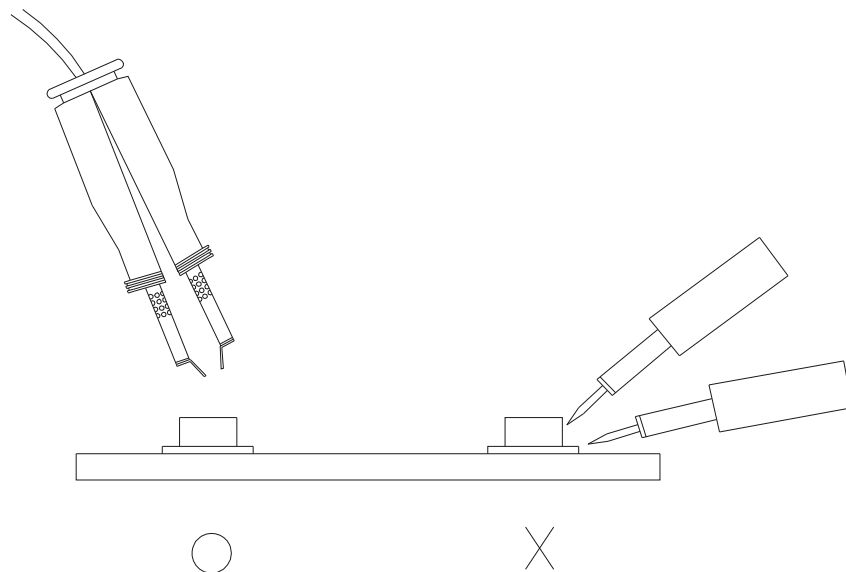
### 4. Soldering Iron

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.





EVERLIGHT