EVERLIGHT ELECTRONICS CO.,LTD.

Technical Data Sheet

Chip LEDs with Bi-Color(Multi-Color)

15-22SUBUYC/S530-A4/TR8

Features

- Package in 8mm tape on 7″ diameter reel.
- Compatible with automatic placement equipment.
- Compatible with infrared and vapor phase reflow solder process.
- Mulit-color type.

Descriptions

- The 15-22 SMD Taping is much smaller than lead frame type components, thus enable smaller board size, higher packing density, reduced storage space and finally smaller equipment to be obtained.
- Besides, lightweight makes them ideal for miniature applications. etc.

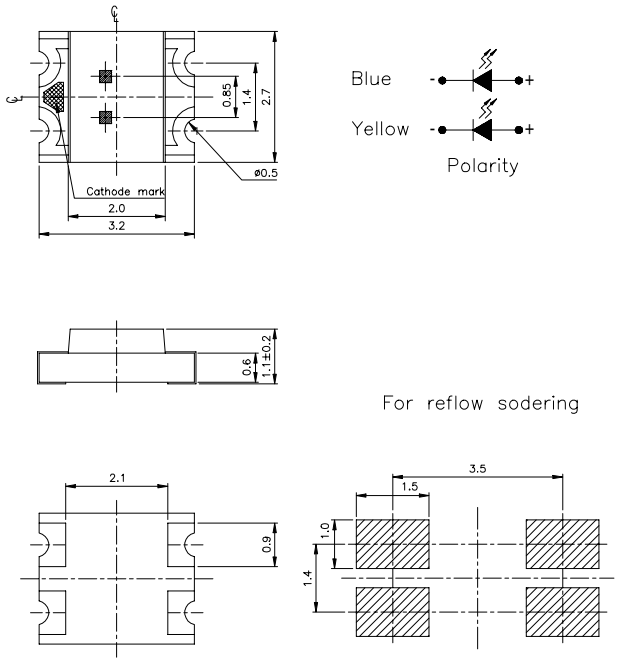
Applications

- Automotive: backlighting in dashboard and switch.
- Telecommunication: indicator and backlighting in telephone and fax.
- Flat backlight for LCD, switch and symbol.
- General use.

Device Selection Guide

Chip			Lens Color
Type	Material	Emitted Color	
SUB	InGaN	Super Blue	Water Clear
UY	AlGaInP	Super Yellow	

Package Outline Dimensions



Notes: Tolerances Unless Dimension ± 0.1mm , Angle± 0.5° ,Unit = mm

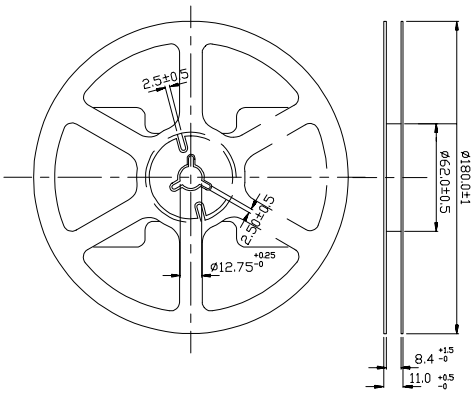
Absolute Maximum Ratings (Ta=25℃)

Parameter	Symbol	Rating	Unit
Reverse Voltage	V_R	5	V
Forward Current	I_F	SUB:25 UY:25	mA
Operating Temperature	Topr	-40 ~ +85	℃
Storage Temperature	Tstg	-40~ +90	℃
Soldering Temperature	Tsol	260 (for 5 second)	℃
Electrostatic Discharge	ESD	SUB:150 UY:2000	V
Power Dissipation	Pd	SUB:110 UY:60	mW
Peak Forward Current (Duty 1/10 @1KHz)	I_F	SUB:100 UY:160	mA

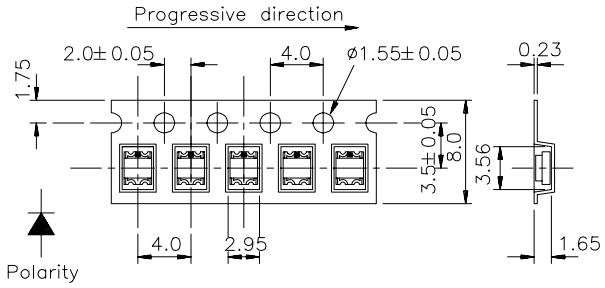
Electro-Optical Characteristics (Ta=25℃)

Parameter	Symbol		Min.	Typ.	Max.	Unit	Condition
Luminous Intensity	Iv	SUB	20	30	-----	mcd	IF=20mA
		UY	50	75	-----		
Viewing Angle	2θ1/2		-----	140	-----	deg	IF=20mA
Peak Wavelength	λp	SUB	-----	468	-----	nm	IF=20mA
		UY	-----	591	-----		
Dominant Wavelength	λd	SUB	-----	470	-----	nm	IF=20mA
		UY	-----	589	-----		
Spectrum Radiation Bandwidth	△λ	SUB	-----	35	-----	nm	IF=20mA
		UY	-----	15	-----		
Forward Voltage	VF	SUB	-----	3.5	4.3	V	IF=20mA
		UY	-----	2.0	2.4		
Reverse Current	IR	SUB	-----	-----	50	uA	VR=5V
		UY	-----	-----	10		

Reel & Carrier Tape Dimensions



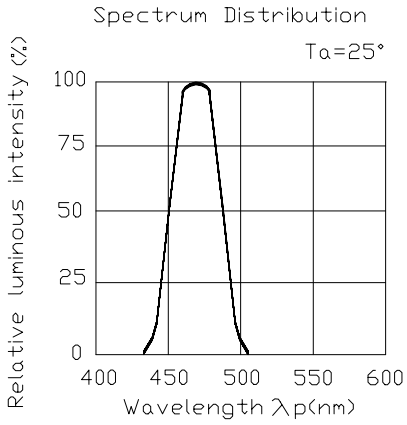
Loaded quantity per reel 2000 PCS/reel

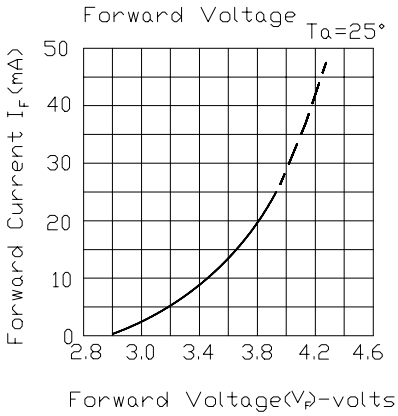


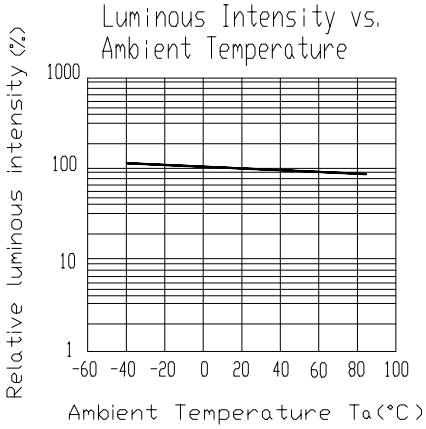
Notes: Tolerances Unless Dimension ± 0.1mm , Angle± 0.5° ,Unit = mm

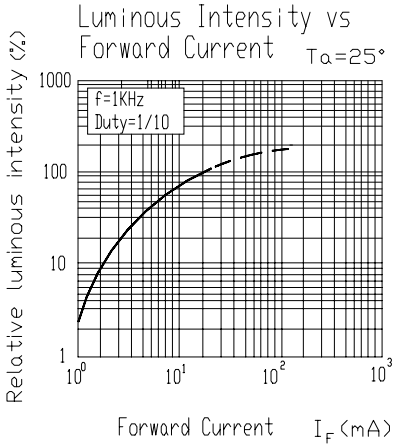
Typical Electro-Optical Characteristics Curves

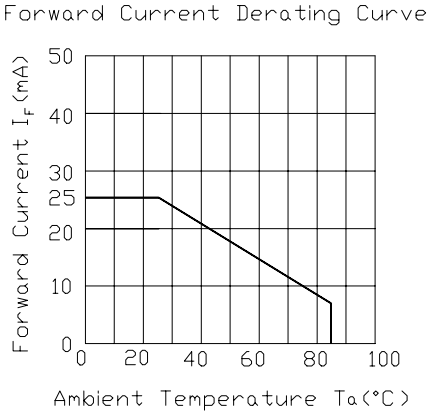
SUB

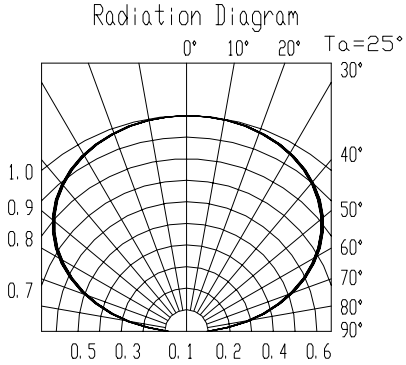






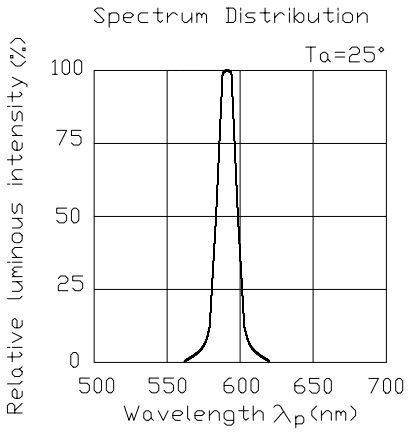


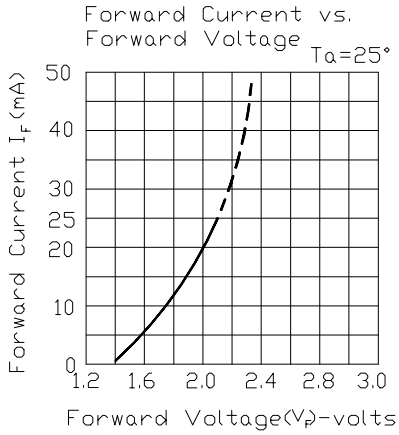


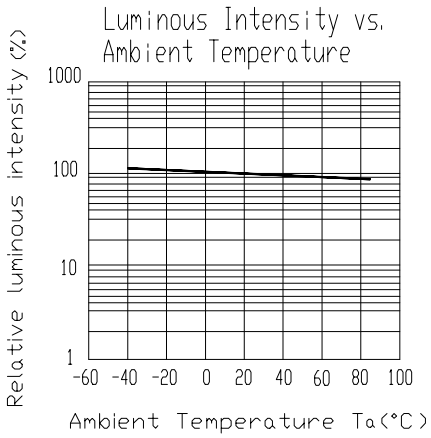


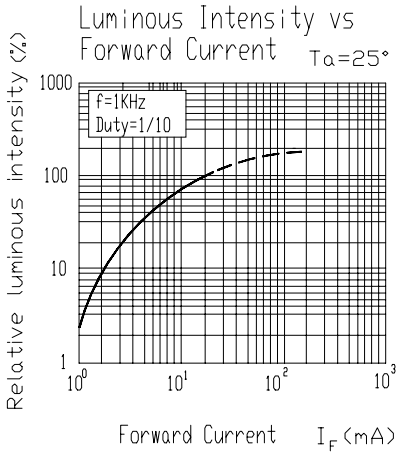
Typical Electro-Optical Characteristics Curves

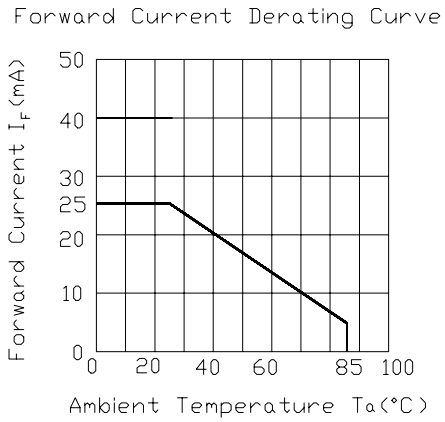
UY

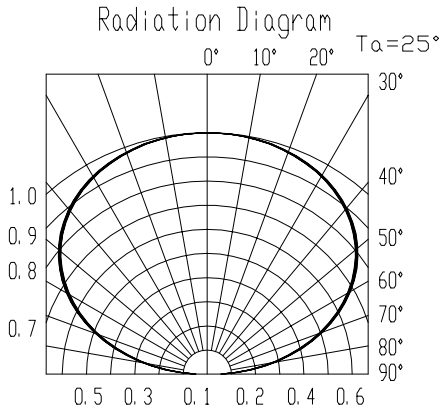












Reliability Test Items And Conditions

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/Rc
1	Reflow	Temp. : 240℃± 5℃ Min. 5 sec.	5 Sec.	22 Pcs.	0/1
2	Temperature Cycle	H : +85℃ 30 min. ∫ 5 min. L : -55℃ 30 min.	50 Cycles	22 Pcs.	0/1
3	Thermal Shock	H : +100℃ 5 min. ∫ 10 sec. L : -10℃ 5 min.	50 Cycles	22 Pcs.	0/1
4	High Temperature Storage	Temp. : 100℃	1000 Hrs.	22 Pcs.	0/1
5	Low Temperature Storage	Temp. : -55℃	1000 Hrs.	22 Pcs.	0/1
6	DC Operating Life	I_F = 20 mA	1000 Hrs.	22 Pcs.	0/1
7	High Temperature / High Humidity	85℃/RH 85%	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 time

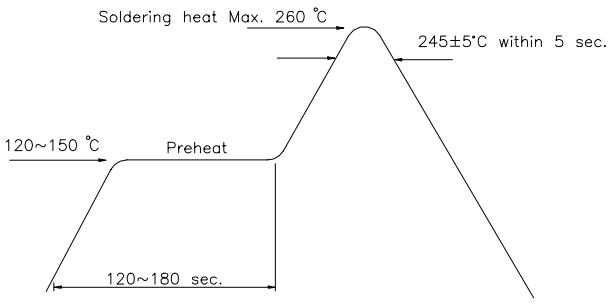
   2.1 The operation of Temperature and RH are : 5℃~35℃, RH60%.

   2.2 Once the package is opened, the products should be used within a week. Otherwise, they should be kept in a damp proof box with descanting agent. Considering the tape life , we suggest our customers to use our products within a year(from production date).

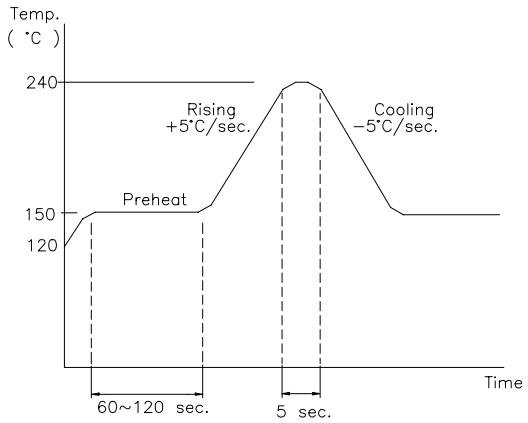
   2.3 If opened more than one week in an atmosphere 5℃~35℃, RH 60%, they should be treated at 60℃± 5℃ for 15hrs.

   2.4 When you discover that the desiccant in the package has a pink color (Normal = blue) , you should treat them in the same conditions as 2.3.

Soldering heat



Reflow Temp / Time

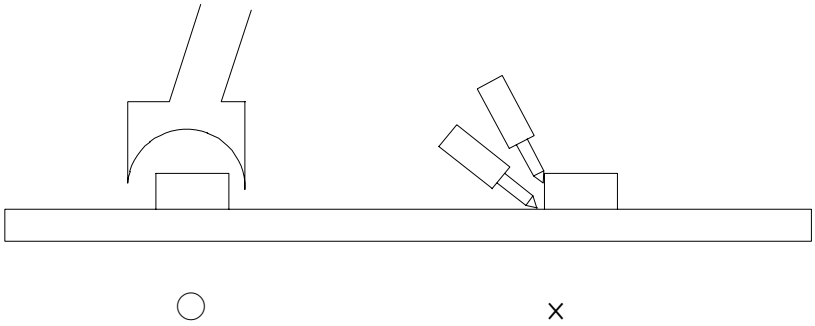


Soldering Iron

Basic spec is ≦5 sec when 260℃.If temperature is higher, time should be shorter (+10℃→ -1sec).
Power dissipation of Iron should be smaller than 15 W , and temperature should be controllable.
Surface temperature of the device should be under 230 ℃.

Rework

1. Customer must finish rework within 5 sec under 245℃.
2. The head of iron can not touch copper foil.
3. Twin-head type is preferred.



EVERLIGHT ELECTRONICS CO., LTD.
Office: No 25, Lane 76, Sec 3, Chung Yang Rd,
Tucheng, Taipei 236, Taiwan, R.O.C
Tel: 886-2-2267-2000, 2267-9936
Fax: 886-2267-6244, 2267-6189, 2267-6306
http://www.everlight.com