EVERLIGHT ELECTRONICS CO.,LTD.

Technical Data Sheet

Right Angle Lens Chip LEDs with Bi-Color(Multi-Color)

12-22SURSYGW/S530-A4/E2/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 12-22 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

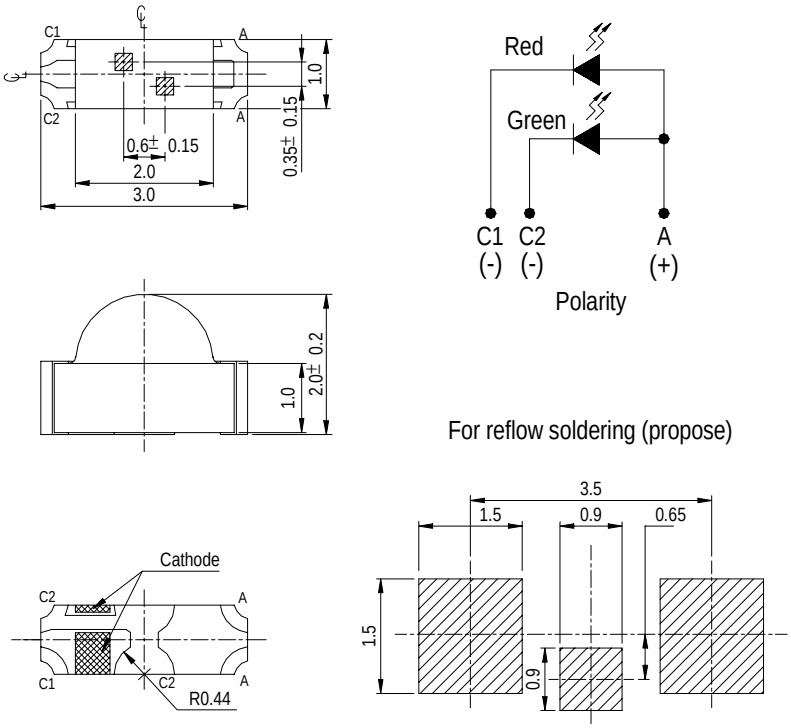
- Automotive: backlighting in dashboard and switch.
- Telecommunication: indicator and backlighting in telephone and fax.
- Flat backlight for LCD, switch and symbol.
- General use.

Device Selection Guide

Chip			Lens Color
Type	Material	Emitted Color	
SUR	AlGaInP	Hyper Red	White Diffused
SYG	AlGaInP	Super Yellow Green	

12-22SURSYGW/S530-A4/E2/TR8

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	SUR:25 SYG:25	mA
Operating Temperature	Topr	-40 ~ +85	℃
Storage Temperature	Tstg	-40~ +90	℃
Soldering Temperature	Tsol	260 (for 5 second)	℃
Electrostatic Discharge	ESD	2000	V
Power Dissipation	Pd	SUR:120 SYG:120	mW
Peak Forward Current (Duty 1/10 @1KHz)	I_F	SUR:160 SYG:160	mA

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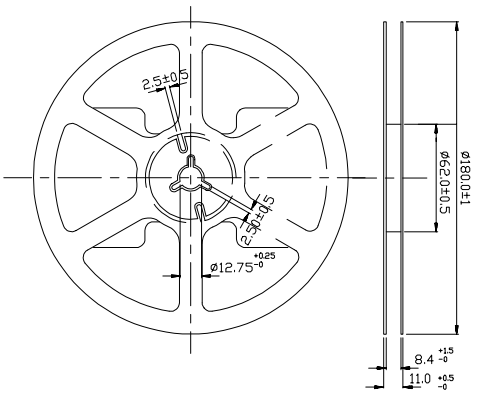
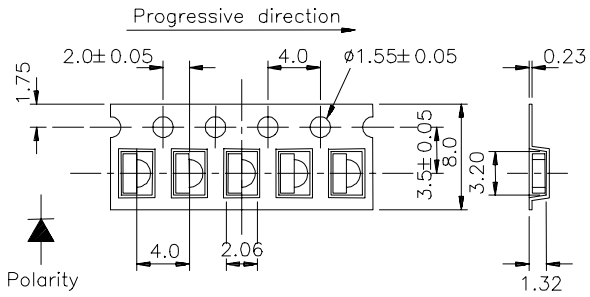
Electro-Optical Characteristics (Ta=25℃)

Parameter	Symbol	Min.	Typ.	Max.	Unit	Condition
Luminous Intensity	Iv SUR	40	63	-----	mcd	IF=20mA
	SYG	16	32	-----		
Viewing Angle	2θ 1/2	-----	130	-----	deg	IF=20mA
Peak Wavelength	λp SUR	-----	632	-----	nm	IF=20mA
	SYG		575			
Dominant Wavelength	λd SUR	-----	624	-----	nm	IF=20mA
	SYG	-----	573	-----		
Spectrum Radiation Bandwidth	△λ SUR	-----	20	-----	nm	IF=20mA
	SYG		20			
Forward Voltage	VF	-----	2.0	2.4	V	IF=20mA
			2.0	2.4		
Reverse Current	IR	-----	-----	10	μA	VR=5V

Reel & Carrier Tape Dimensions



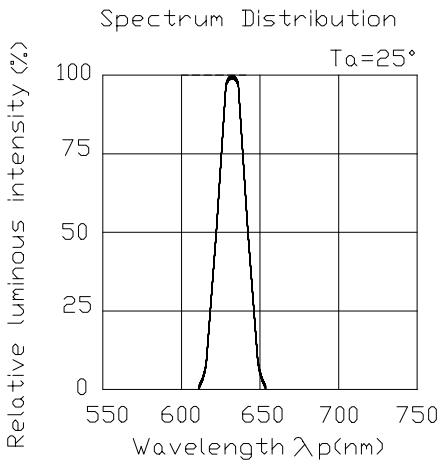
Loaded quantity per reel 2000 PCS/reel

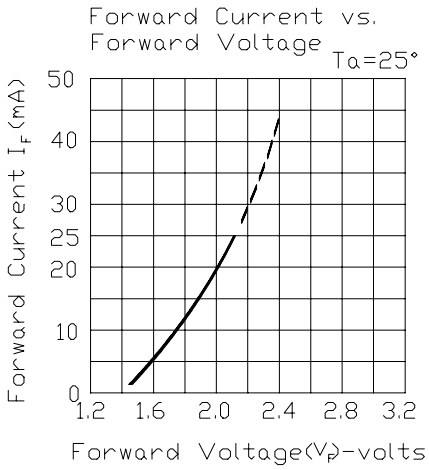


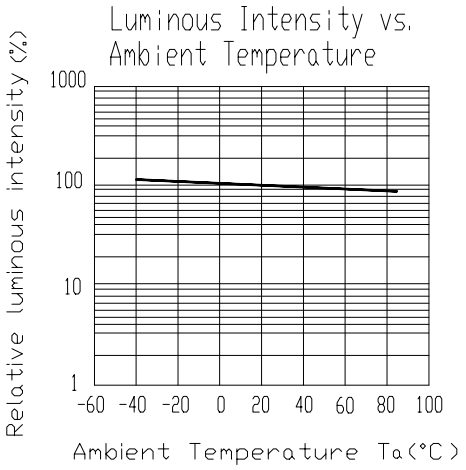
Notes: Tolerances Unless Dimension ± 0.1mm , Angle± 0.5° ,Unit = mm

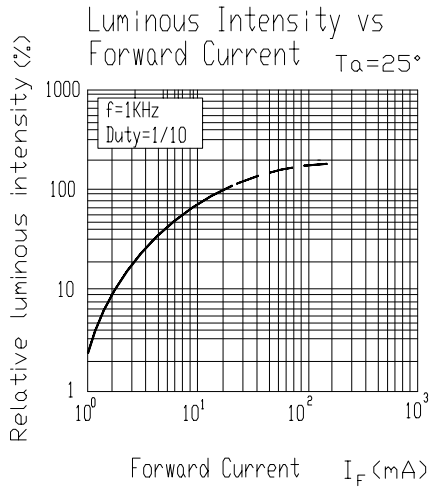
Typical Electro-Optical Characteristics Curves

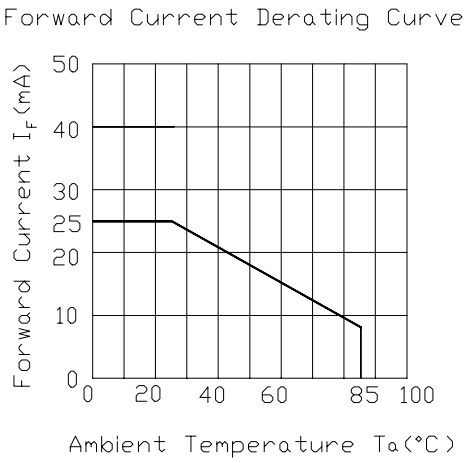
SUR

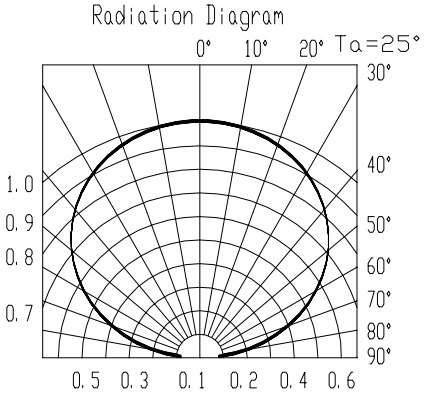






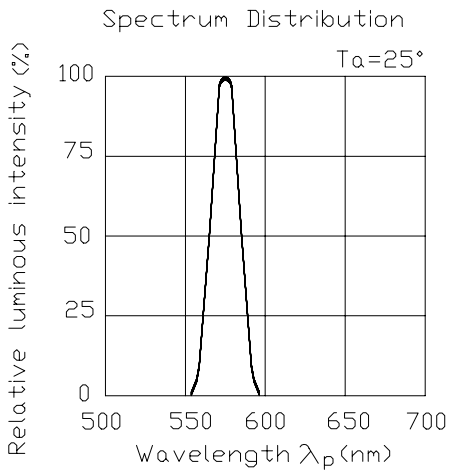


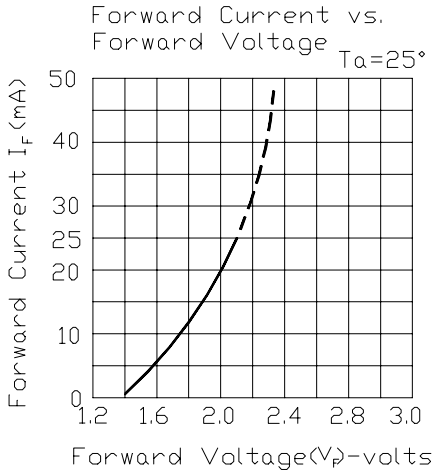


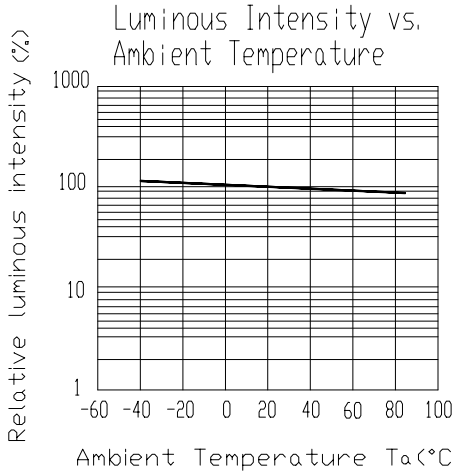


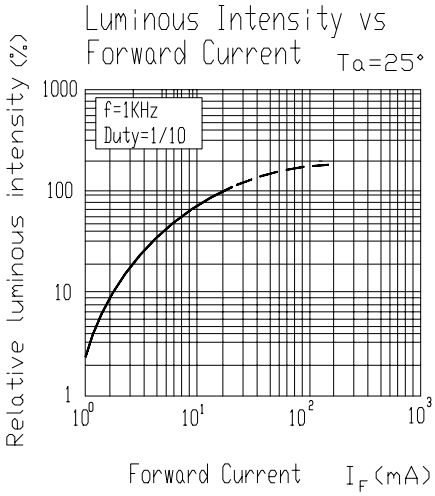
Typical Electro-Optical Characteristics Curves

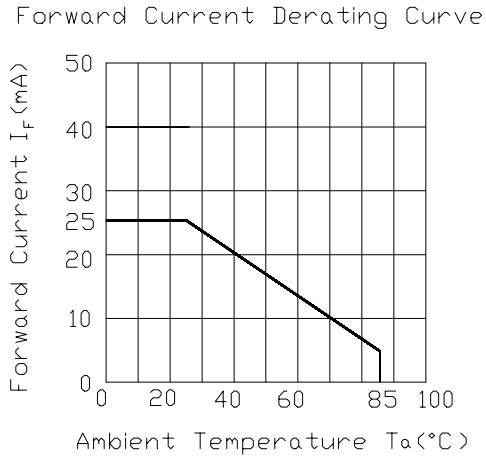
SYG

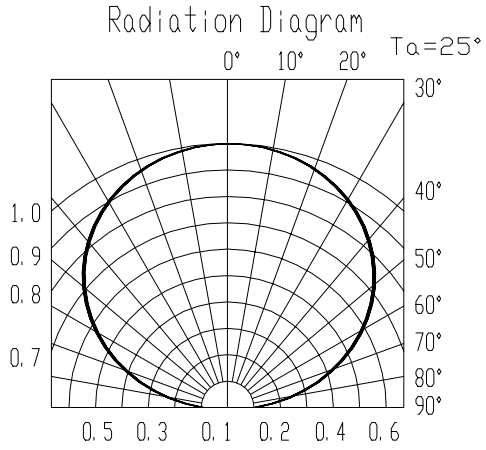












Reliability Test Items And Conditions

No.	Items	Test Condition	Test Hours/Cycles	Sample Size	Ac/Rc
1	Solder Heat	Temp. : 260℃± 5℃	5 Sec.	76 PCS.	0/1
2	Temperature Cycle	H : +85℃ 30min ∫ 5 min L : -55℃ 30min	50 Cycles	76 PCS.	0/1
3	Thermal Shock	H : +100℃ 5min ∫ 10 sec L : -10℃ 5min	50 Cycles	76 PCS.	0/1
4	High Temperature Storage	Temp. : 100℃	1000 Hrs.	76 PCS.	0/1
5	Low Temperature Storage	Temp. : -55℃	1000 Hrs.	76 PCS.	0/1
6	DC Operating Life	I_F = 20 mA	1000 Hrs.	76 PCS.	0/1
7	High Temperature / High Humidity	85℃/RH85%	1000 Hrs.	76 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

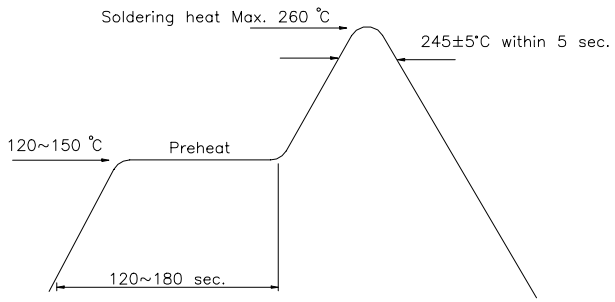
2.1 The operation of Temperature and RH are : 5℃~35℃, RH60%.

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).

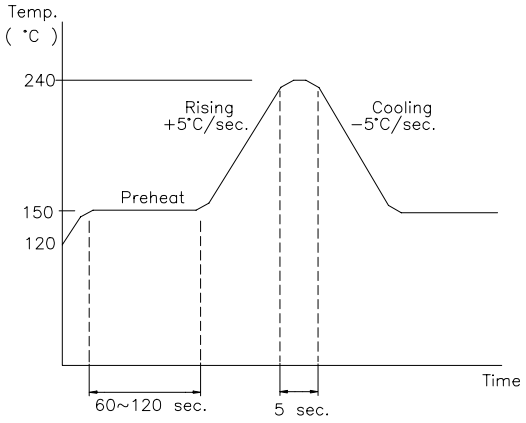
2.3 If opened more than one week in an atmosphere 5℃~35℃, RH 60%, they should be treated at 60℃± 5℃for 15hrs.

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 reliability (DIP)



Reflow Temp / Time

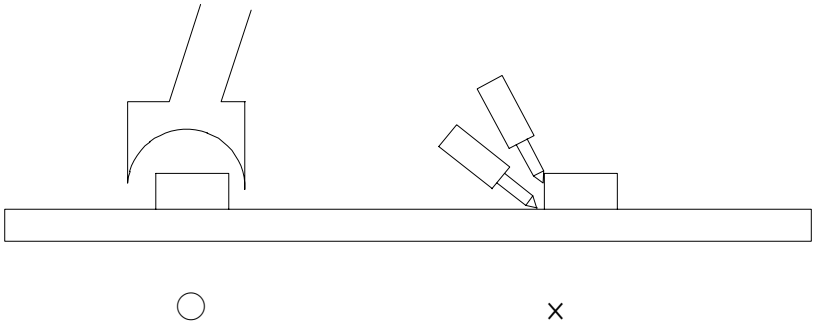


Soldering Iron

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.



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