



# Technical Data Sheet

## Chip LEDs with Bi-Color(Multi-Color)

### 15-22SURSYGW/S530-A2/TR8

#### Features

- Package in 8mm tape on 7" diameter reel.
- Compatible with automatic placement equipment.
- Compatible with infrared and vapor phase reflow solder process.
- Multicolor 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

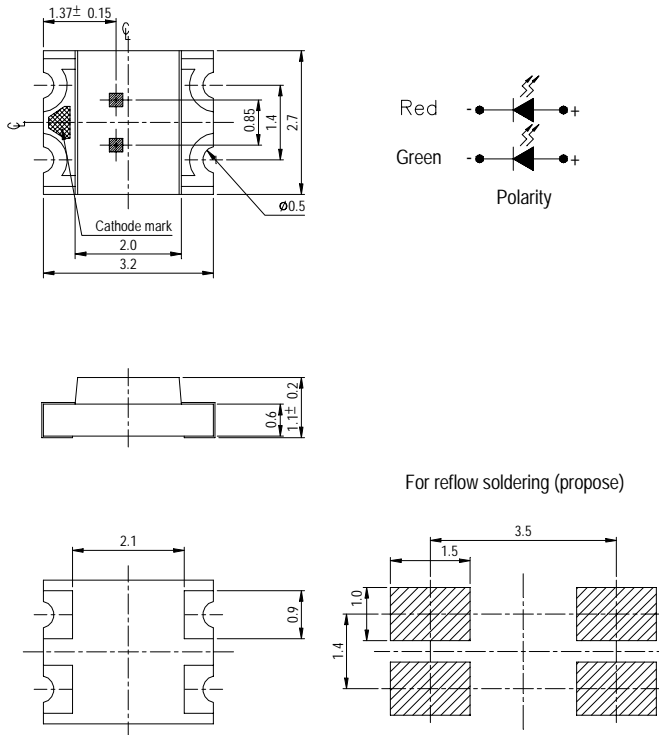
- Automotive: backlighting in dashboard and switch.
- Telecommunication: indicator and backlighting in telephone and fax.
- Flat backlight for LCD, switch and symbol.
- General use.

#### Device Selection Guide

Chip			Lens Color
Type	Material	Emitted Color	
SUR	AlGaInP	Hyper Red	Water Clear
SYG	AlGaInP	Super Yellow Green	

**15-22SURSYGW/S530-A2/TR8**

**Package Outline Dimensions**



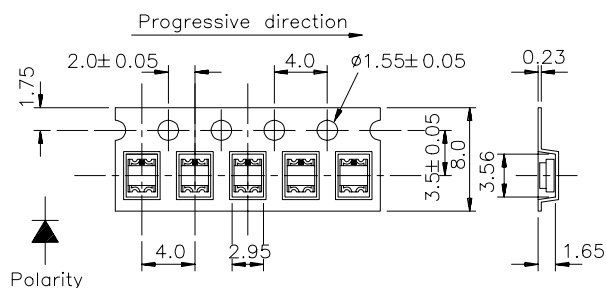
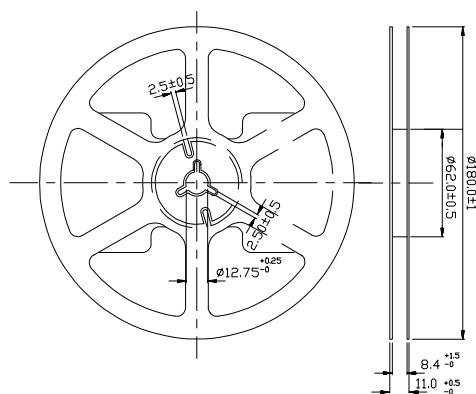
**Notes:** Tolerances Unless Dimension  $\pm 0.1\text{mm}$  , Angle  $\pm 0.5^\circ$  ,Unit = mm

**Absolute Maximum Ratings (Ta=25°C)**

Parameter	Symbol	Rating	Unit
Reverse Voltage	V <sub>R</sub>	5	V
Forward Current	I <sub>F</sub>	SUR:25 SYG:25	mA
Operating Temperature	T <sub>opr</sub>	-40 ~ +85	°C
Storage Temperature	T <sub>stg</sub>	-40~ +90	°C
Soldering Temperature	T <sub>sol</sub>	260 (for 5 second)	°C
Electrostatic Discharge	ESD	2000	V
Power Dissipation	P <sub>d</sub>	SUR:120 SYG:120	mW
Peak Forward Current (Duty 1/10 @1KHz)	I <sub>F</sub>	SUR:160 SYG:160	mA

**15-22SURSYGW/S530-A2/TR8**
**Electro-Optical Characteristics (Ta=25°C)**

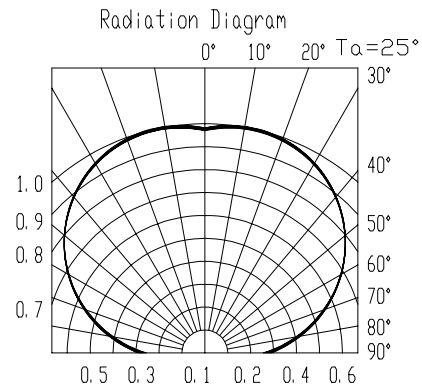
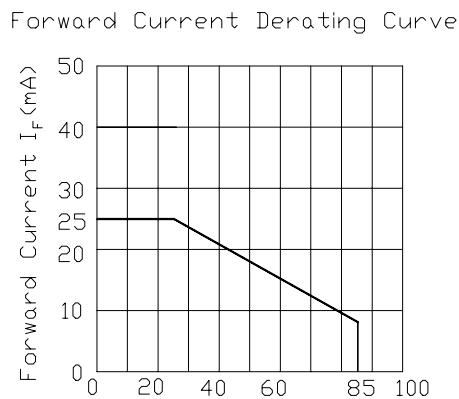
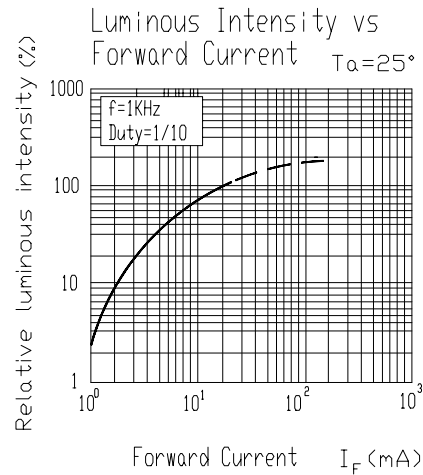
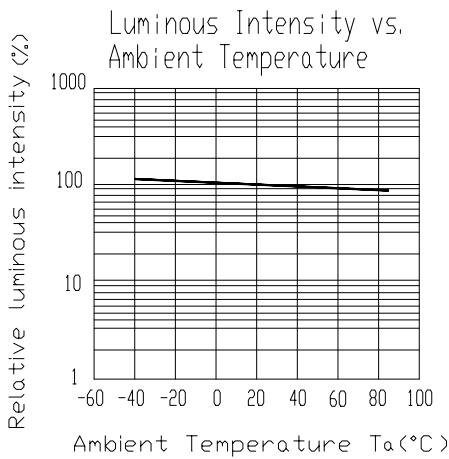
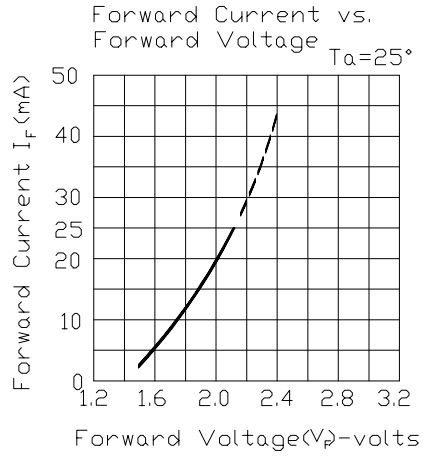
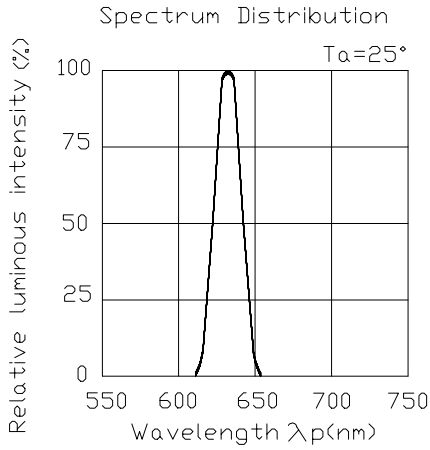
Parameter	Symbol	Min.	Typ.	Max.	Unit	Condition
Luminous Intensity	I <sub>v</sub> SUR	12	20	-----	mcd	I <sub>F</sub> =20mA
	SYG	8	14	-----		
Viewing Angle	2θ 1/2	-----	150	-----	deg	I <sub>F</sub> =20mA
Peak Wavelength	λ <sub>p</sub> SUR	-----	632	-----	nm	I <sub>F</sub> =20mA
	SYG	-----	575	-----		
Dominant Wavelength	λ <sub>d</sub> SUR	-----	624	-----	nm	I <sub>F</sub> =20mA
	SYG	-----	573	-----		
Spectrum Radiation Bandwidth	Δλ SUR	-----	20	-----	nm	I <sub>F</sub> =20mA
	SYG	-----	20	-----		
Forward Voltage	V <sub>F</sub>	-----	2.0	2.4	V	I <sub>F</sub> =20mA
Reverse Current	I <sub>R</sub>	-----	-----	10	μA	V <sub>R</sub> =5V
			-----			

**Reel & Carrier Tape Dimensions**
**Loaded quantity per reel 2000 PCS/reel**


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

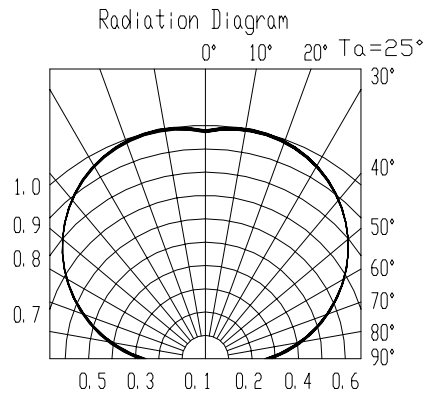
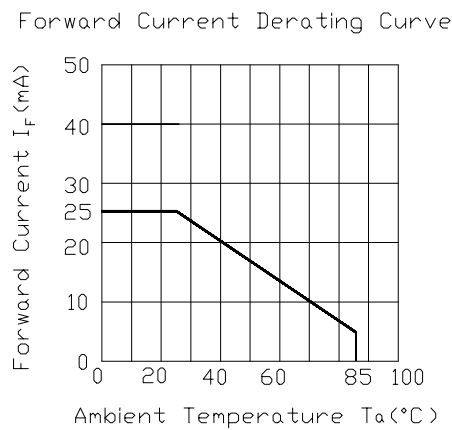
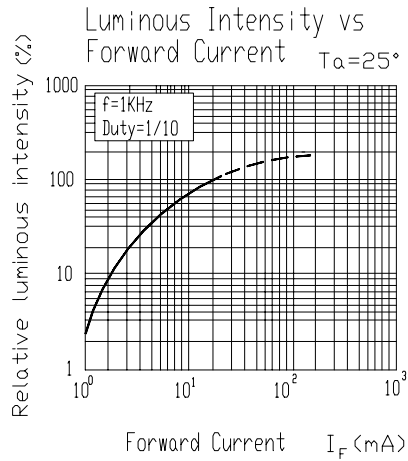
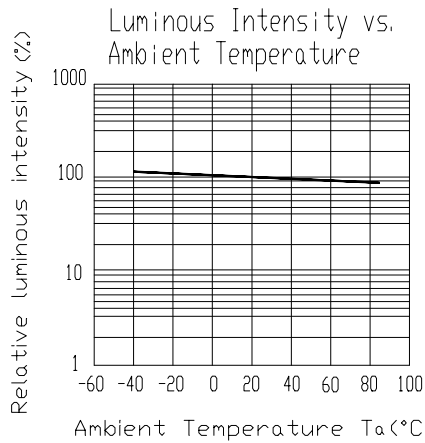
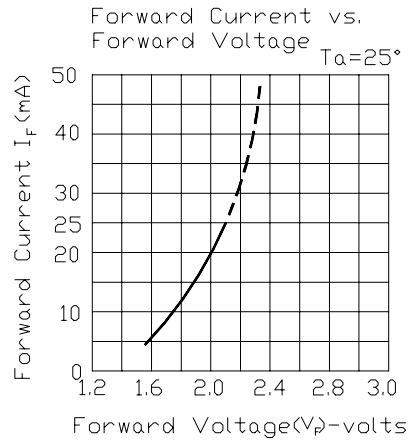
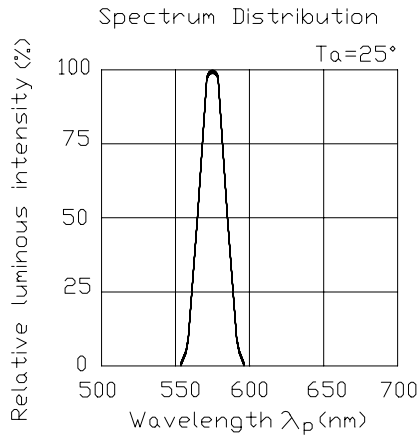
**15-22SURSYGW/S530-A2/TR8**

**Typical Electro-Optical Characteristics Curves  
SUR**



**15-22SURSYGW/S530-A2/TR8**

**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°C ± 5°C	5 Sec.	76 PCS.	0/1
2	Temperature Cycle	H : +85°C 30min ∫ 5 min L : -55°C 30min	50 Cycles	76 PCS.	0/1
3	Thermal Shock	H : +100°C 5min ∫ 10 sec L : -10°C 5min	50 Cycles	76 PCS.	0/1
4	High Temperature Storage	Temp. : 100°C	1000 Hrs.	76 PCS.	0/1
5	Low Temperature Storage	Temp. : -55°C	1000 Hrs.	76 PCS.	0/1
6	DC Operating Life	IF = 20 mA	1000 Hrs.	76 PCS.	0/1
7	High Temperature / High Humidity	85°C /RH85%	1000 Hrs.	76 PCS.	0/1

**15-22SURSYGW/S530-A2/TR8**

**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

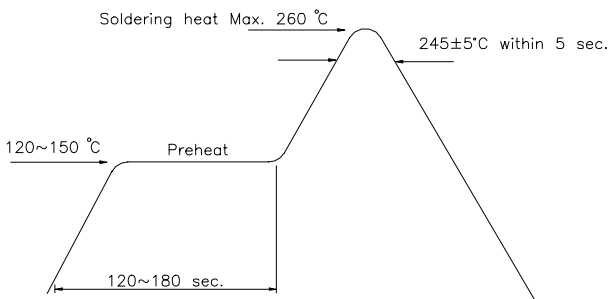
2.1 The operation of Temperature and RH are : 5°C~35°C, RH60%.

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).

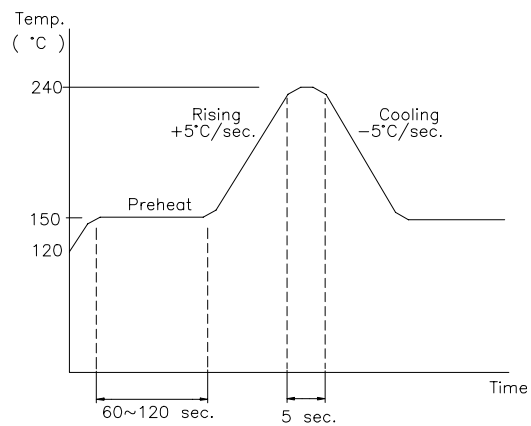
2.3 If opened more than one week in an atmosphere 5°C~35°C, RH 60%, they should be treated at 60°C± 5°C for 15hrs.

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**

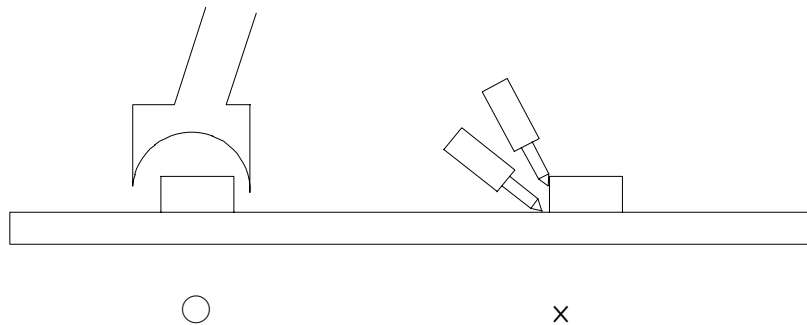


**Soldering Iron**

Basic spec is ≤ 5 sec when 260°C. If temperature is higher, time should be shorter (+10°C → -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 °C .

**Rework**

1. Customer must finish rework within 5 sec under 245°C.
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>