



EVERLIGHT ELECTRONICS CO., LTD.

MODEL NO: 12-21SDRC/S530-A2/TR8

Device Number : DSE-121-048 REV. 1.0

Chip LEDs with Right Angle Lens

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### Features :

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

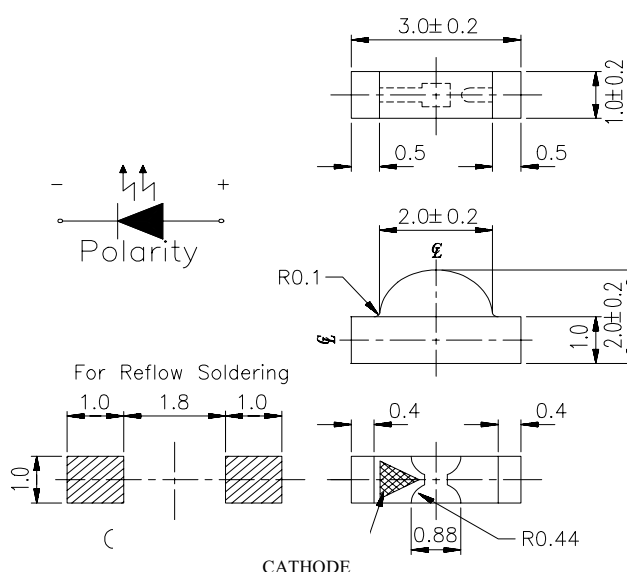
### Descriptions :

- The 12-21 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.
- 

### Package Dimensions :



CATHODE

### Notes :

Tolerances Unless Dimension  $\pm 0.1\text{mm}$

Angle  $\pm 0.5^\circ$

Unit = mm

PART NO	Chip		Lens Color
	Material	Emitted Color	
12-21 SDRC/S530-A2/TR8	AlGaInP	Super Deep-Red	Water Clear

Office: NO. 25, Lane 76, Sec.3, Chung Yang Rd., Tucheng 236, Taipei, Taiwan, R.O.C.

TEL: 886-2-2267-2000, 2267-9936

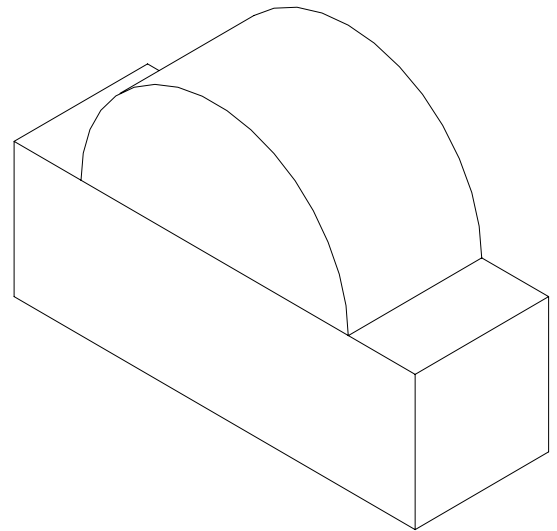
FAX: 886-2-2267-6244, 2267-6189, 2267-6306

<http://www.everlight.com>



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Progressive direction →

1.75

$2.0 \pm 0.05$

4.0

$\phi 1.55 \pm 0.05$

0.23

$3.5 \pm 0.05$

8.0

3.20

4.0

2.06

1.32

Polarity

TOLERANCES UNLESS DIMENSION  $\pm 0.1$   
 ANGLE  $\pm 0.5$   
 UNIT:mm  
 SCALE:3=1



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■ Absolute Maximum Ratings at Ta = 25°C

Parameter	Symbol	Rating	Unit
Reverse Voltage	Vr	5	V
Forward Current	If	25	mA
Operating Temperature	Topr	-40 ~ +85	°C
Storage Temperature	Tstg	-40 ~ +90	°C
Soldering Temperature	Tsol	260 (for 5 second)	°C
Electrostatic Discharge	ESD	2000	V
Power Dissipation	Pd	60	mW
Peak Forward Current(Duty 1/10 @ 1KHZ)	If(Peak)	160	mA

■ Electronic Optical Characteristics :

Parameter	Symbol	Min.	Typ.	Max.	Unit	Condition
Luminous Intensity	Iv	-----	2	-----	mcd	If=2mA
		19	33	-----	mcd	If=20mA
Viewing Angle	2 θ 1/2	-----	120	-----	deg	If=20mA
Peak Wavelength	λ p	-----	650	-----	nm	If=20mA
Dominant Wavelength	λ d	-----	639	-----	nm	If=20mA
Spectrum Radiation Bandwidth	△ λ	-----	20	-----	nm	If=20mA
Forward Voltage	Vf	-----	2.0	2.4	V	If=20mA
Reverse Current	Ir	-----	-----	10	μ A	Vr=5V



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■ **Reliability Test Items And Conditions:**

NO	Item	Test Conditions	Test Hours/Cycle	Sample Size	Ac/Re
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 CYCLE	76 PCS	0/1
3	Thermal Shock	H : +100°C 5min ∫ 10 sec L : -10°C 5min	50 CYCLE	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/85% RH	1000 HRS	76 PCS	0/1



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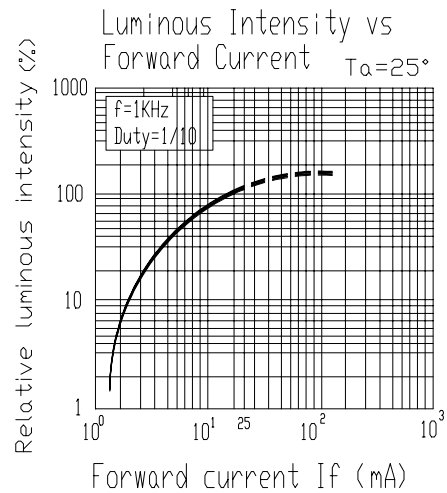
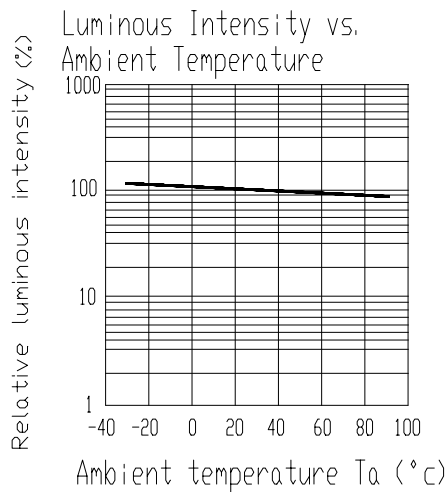
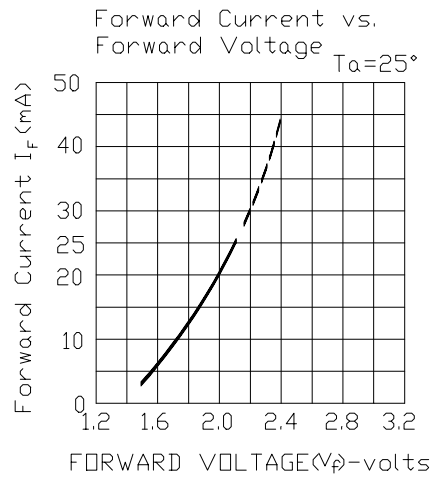
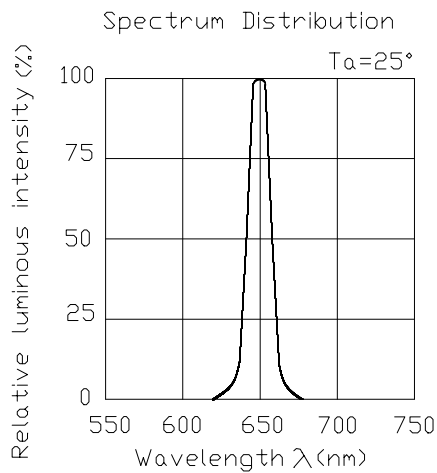
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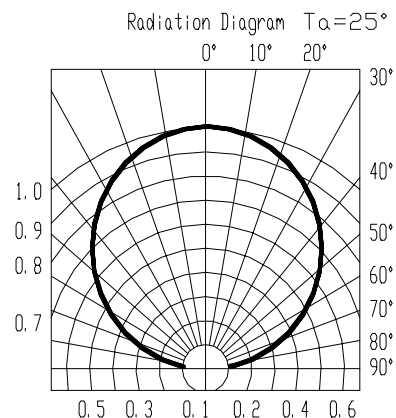
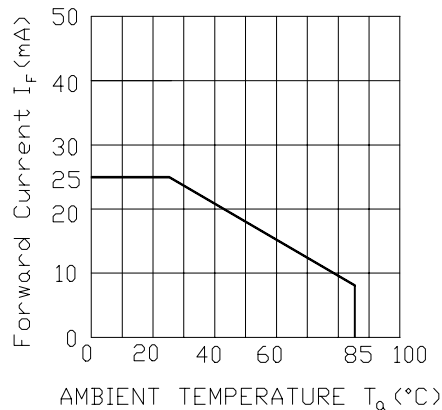
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## Typical Electro-Optical Characteristic Curves



Forward Current Derating Curve





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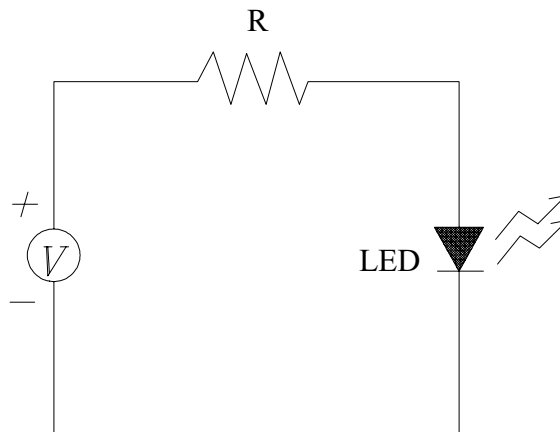
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## ■ Test Circuit



## ■ 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 R.H. are :  $5^{\circ}\text{C}\sim 35^{\circ}\text{C}$  , R.H.60%.

2.2 Once the package is opened, the products should be used within a week.

Otherwise, they should be keeping in a damp proof box with desiccating 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  $5^{\circ}\text{C}\sim 35^{\circ}\text{C}$  , R.H.60%, they should be treated at  $60^{\circ}\text{C} \pm 5^{\circ}\text{C}$  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.



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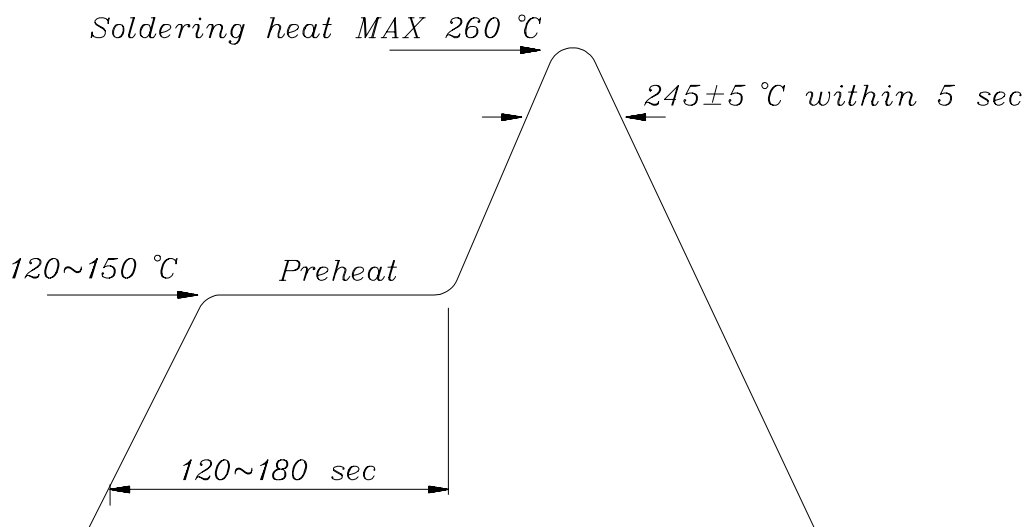
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### ■ Soldering heat reliability ( DIP )

Please refer to the following figure :

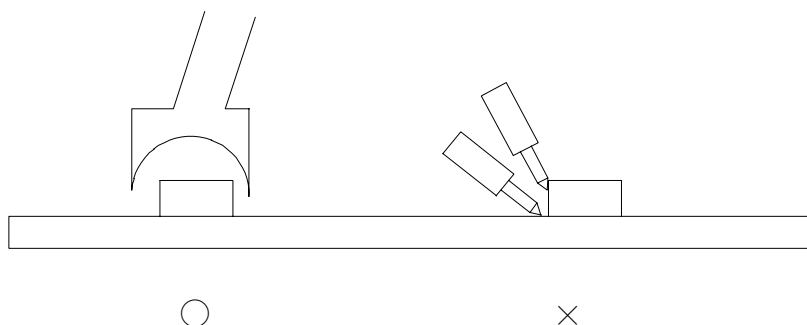


### ■ Soldering Iron

Basic spec is  $\leq 5$  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 260°C .
2. The head of iron can not touch copper foil.
3. Twin-head type is preferred.





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■ Reflow Temp / Time :

