



EVERLIGHT ELECTRONICS CO., LTD.

PART NO. : 19-21SURC/S530-A2/S180/TR8

Device Number : DSE-191-126 REV. 1.0

0.8mm Height Flat Top LEDs

ECN : Page: 1/9

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.

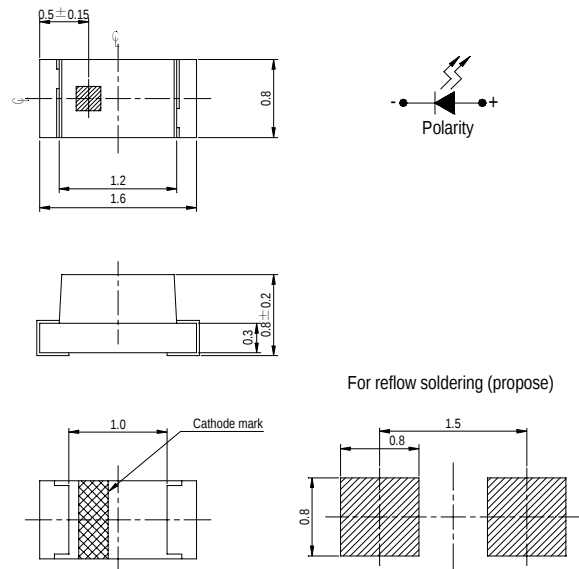
Description :

- The 19-21 SMD Taping is much smaller than leaded 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 application, 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 :



Notes :

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

Angle $\pm 0.5^\circ$

Unit = mm

PART NO.	Chip		Lens Color
	Material	Emitted Color	
19-21SURC/S530-A2/S180/TR8	AlGaInP	Hyper Red	Water Clear

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<http://www.everlight.com>



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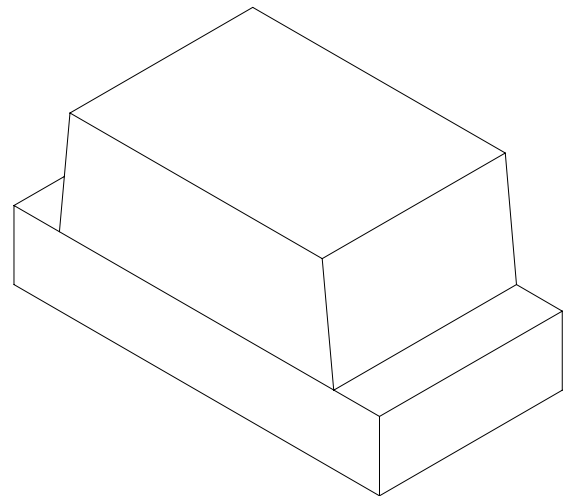
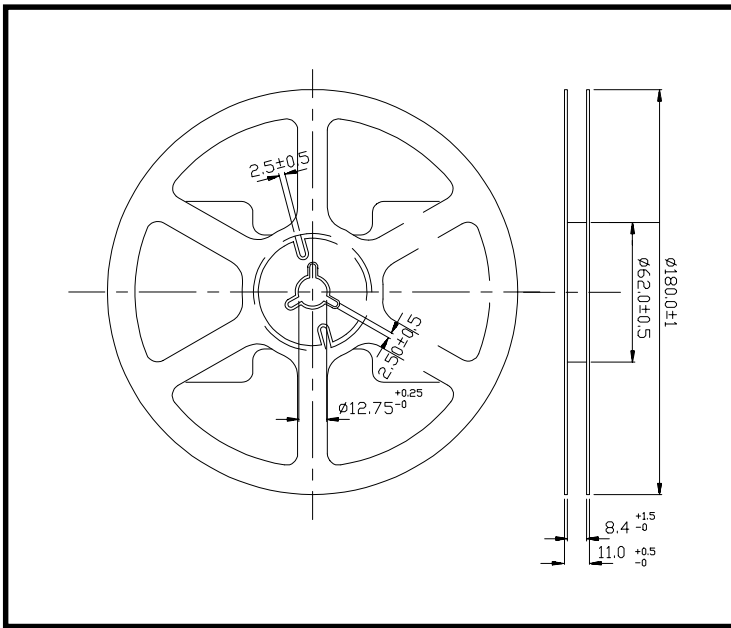
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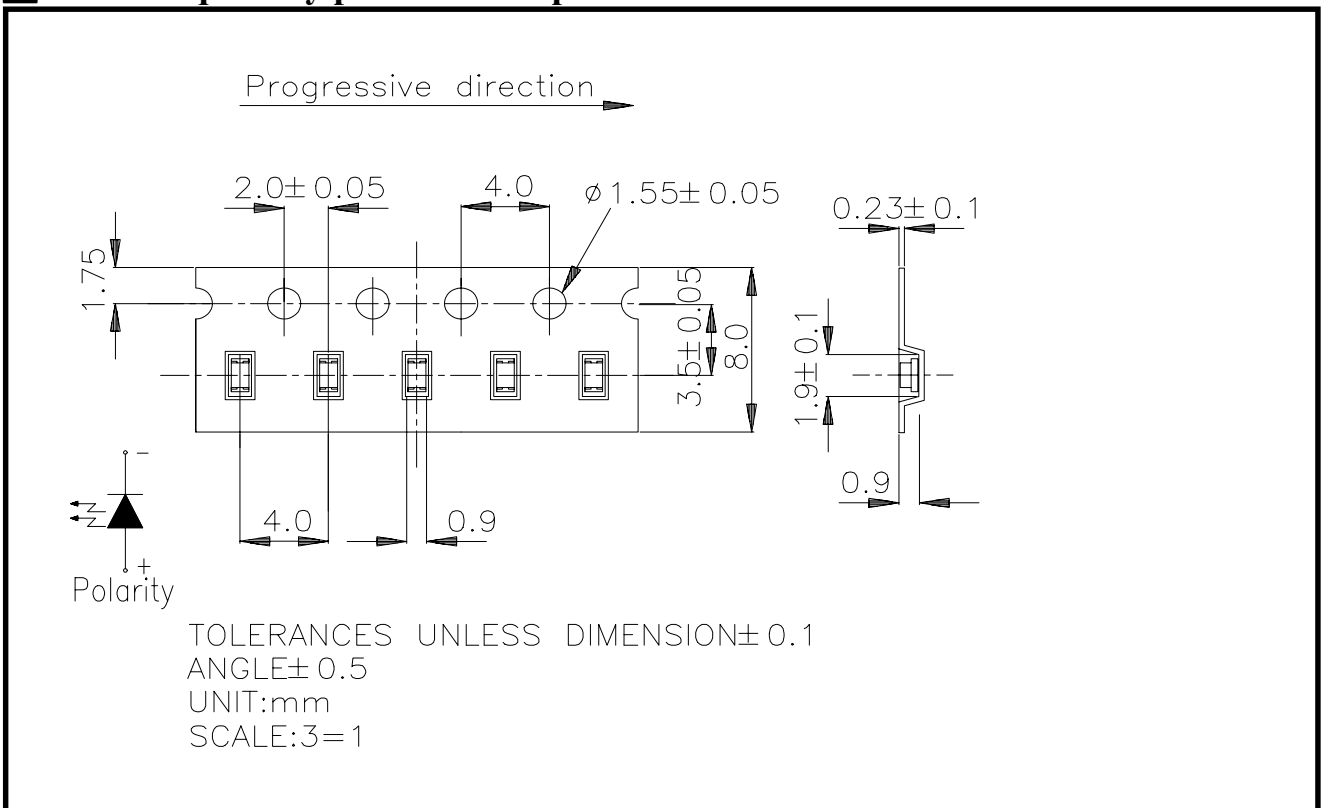
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ECN : Page: 2/9

Package Dimensions :



Loaded quantity per reel 3000 pcs/reel :





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PART NO. : 19-21SURC/S530-A2/S180/TR8 Device Number : DSE-191-126 REV. 1.0

0.8mm Height Flat Top LEDs

ECN : Page: 3/9

■ **Absolute Maximum Ratings at Ta = 25°C**

Parameter	Symbol	Rating	Unit
Reverse Voltage	V _R	5	V
Forward Current	I _F	25	mA
Operating Temperature	T _{opr}	-40 ~ +85	°C
Storage Temperature	T _{stg}	-40 ~ +90	°C
Soldering Temperature	T _{sol}	260 (for 5 second)	°C
Electrostatic Discharge	ESD	2000	V
Power Dissipation	P _d	60	mW
Peak Forward Current(Duty 1/10 @ 1KHz)	I _F (Peak)	160	mA

■ **Electronic Optical Characteristics :**

Parameter	Symbol	Min.	Typ.	Max.	Unit	Condition
Luminous Intensity	I _v	-----	2	-----	mcd	I _F =2mA
		32	-----	100	mcd	I _F =20mA
Viewing Angle	2 θ 1/2	-----	100	-----	deg	I _F =20mA
Peak Wavelength	λ _p	-----	632	-----	nm	I _F =20mA
Dominant Wavelength	λ _d	616	-----	636	nm	I _F =20mA
Spectrum Radiation Bandwidth	△ λ	-----	20	-----	nm	I _F =20mA
Forward Voltage	V _F	1.8	----	2.5	V	I _F =20mA
Reverse Current	I _R	-----	-----	10	μ A	V _R =5V



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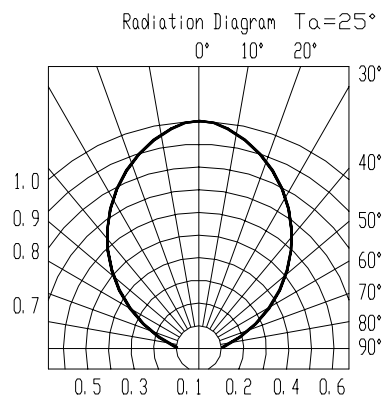
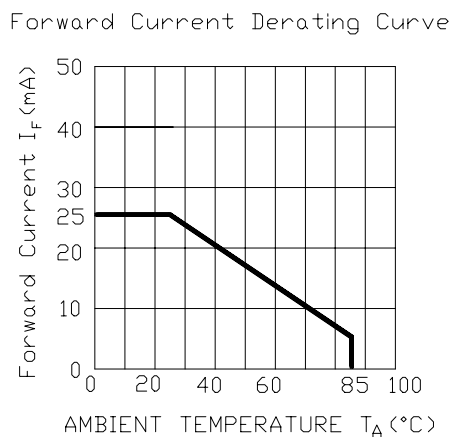
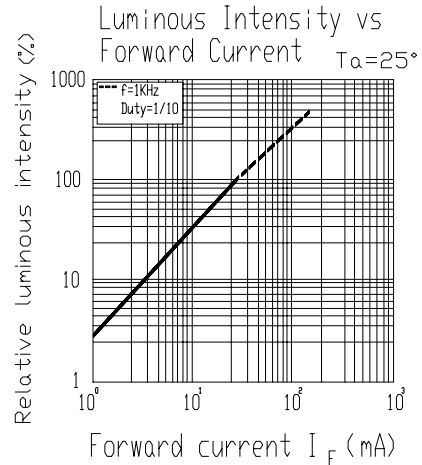
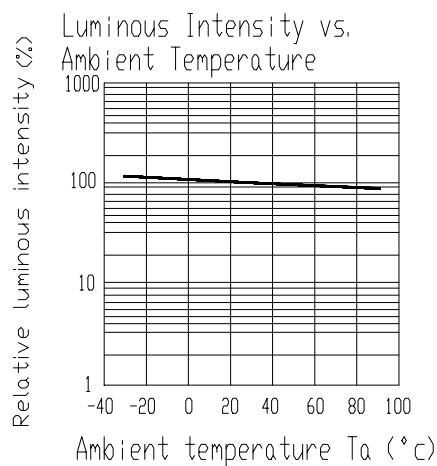
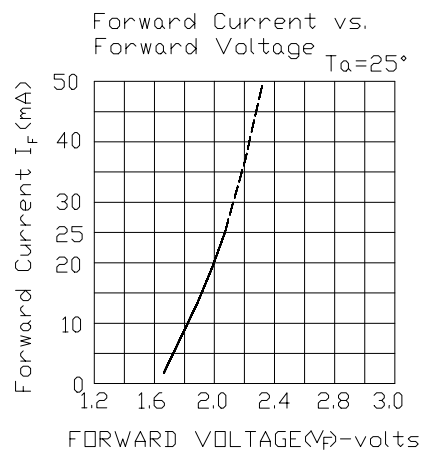
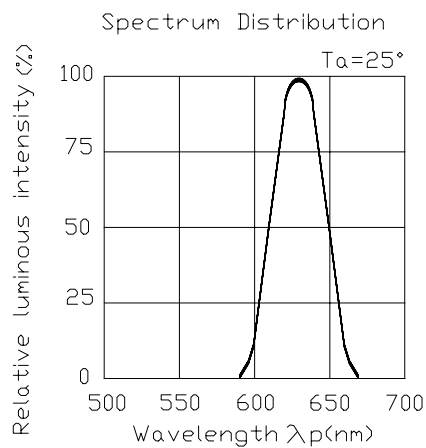
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ECN : Page: 4/9

Typical Electro-Optical Characteristic Curves





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ECN : Page: 5/9

Bin Rang Of Luminous Intensity If= 20mA

Bin	Min	Typ	Max	Unit
N2	32	----	50	mcd
P1	40	----	63	mcd
P2	50	----	80	mcd
Q1	63	----	100	mcd

Bin Rang Of Dom. Wavelength If=20mA

Bin	Min	Typ	Max	Unit
1	616	----	624	nm
2	622	----	630	nm
3	628	----	636	nm

Bin Rang Of Forward Voltage If=20mA

Bin	Min	Typ	Max	Unit
1	1.8	----	2.2	V
2	2.1	----	2.5	V

Label explanation

CPN : P/N: XXXXXXXXXXXX XX-XXXXXXXX QTY: XXXX LOT NO: XXXXXXXXXXXX

EVERLIGHT

CPN :
P/N: XXXXXXXXXXXX

XX-XXXXXXXX
QTY: XXXX

LOT NO: XXXXXXXXXXXX

MADE IN TAIWAN
Iv λd VF

CAT:
HUE:
REF:



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ECN : Page: 6/9

Reliability Test Items And Condition

NO	Item	Test Conditions	Test Hours/Cycle	Sample Size	Ac/Re
1	Solder Heat	TEMP : 260°C $\pm$ 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 HR	76 PCS	0/1
5	Low Temperature Storage	TEMP : -55°C	1000 HR	76 PCS	0/1
6	DC Operating Life	If = 20 m A	1000 HR	76 PCS	0/1
7	High Temperature / High Humidity	85°C/RH85%	1000 HR	76 PCS	0/1



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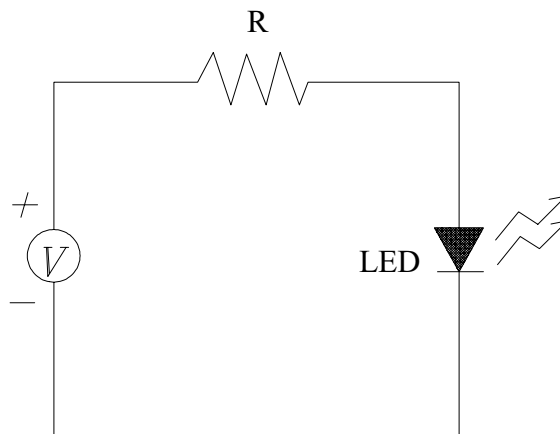
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ECN : Page: 7/9

■ 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 keep in a dampproof box with desiccants.

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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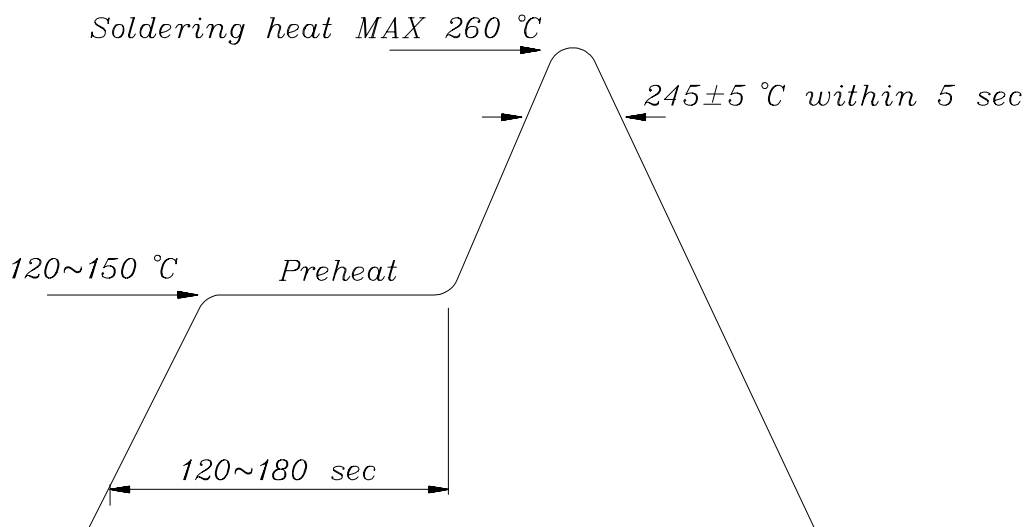
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ECN : Page: 8/9

■ Soldering heat reliability (DIP)

Please refer to the following figure :

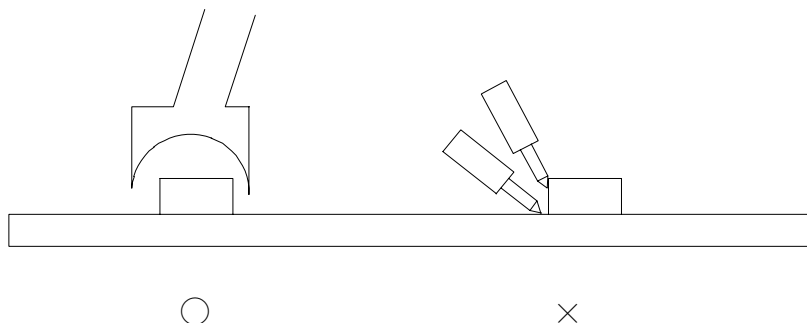


■ Soldering Iron

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 260°C .
2. Copper foil can not be touched by the head of iron.
3. Twin-head type is preferred.





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ECN : Page: 9/9

■ Reflow Temp. / Time :

