



PART NO.: 19-21USOC/S530-XX/TR8

Device Number : DSE-191-130 REV. 1.0

0.8mm Height Flat Top LED

ECN :

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Features :

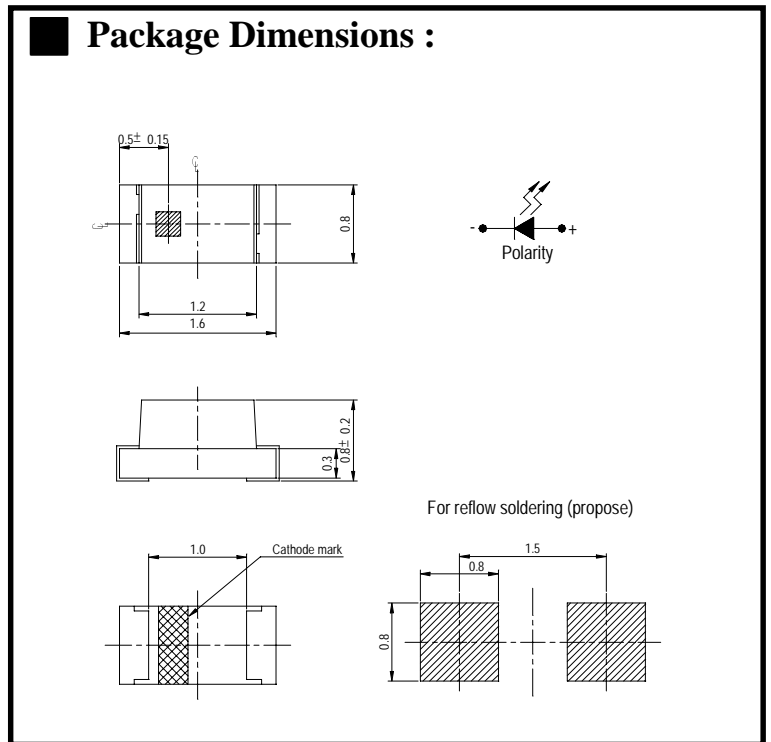
- Package in 8mm tape on 7 " diameter reel .
- Compatible with automatic placement equipment.
- Compatible with infrared and vapor Phase reflow solders process.
- Mono-color type.

Descriptions :

- The 19-21 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, light Weight 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.



Notes :

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

PART NO.	Chip		Lens Color
	Material	Emitted Color	
19-21USOC/S530-XX/TR8	AlGaInP	Super Sunset Orange	Water Clear

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

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<http://www.everlight.com>



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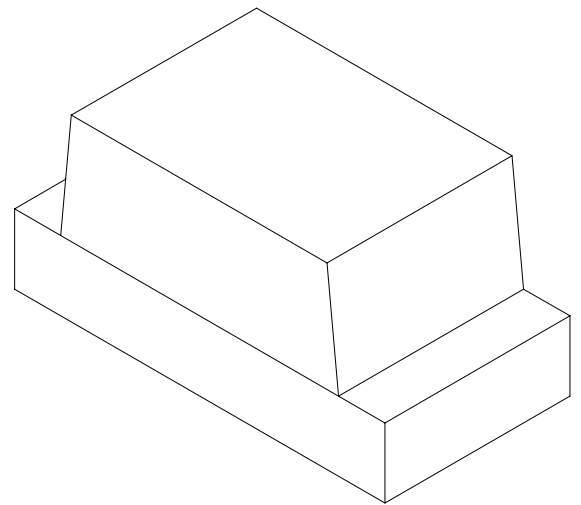
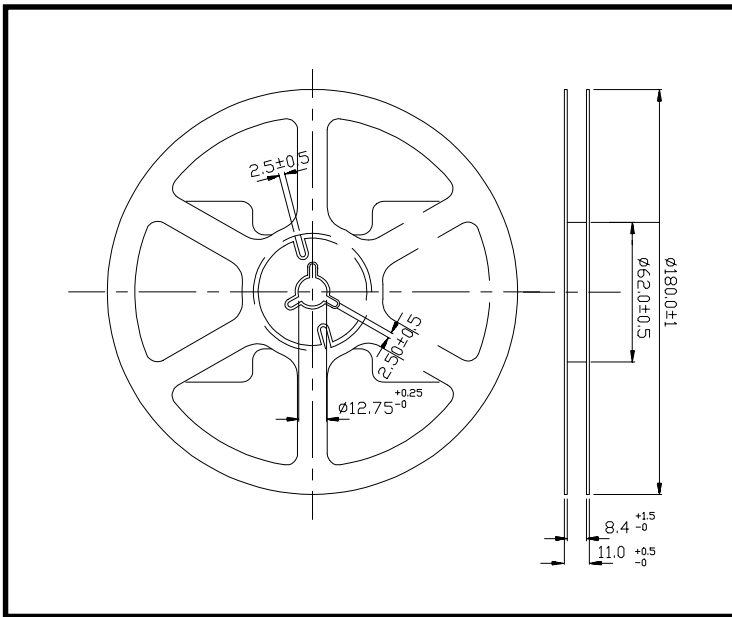
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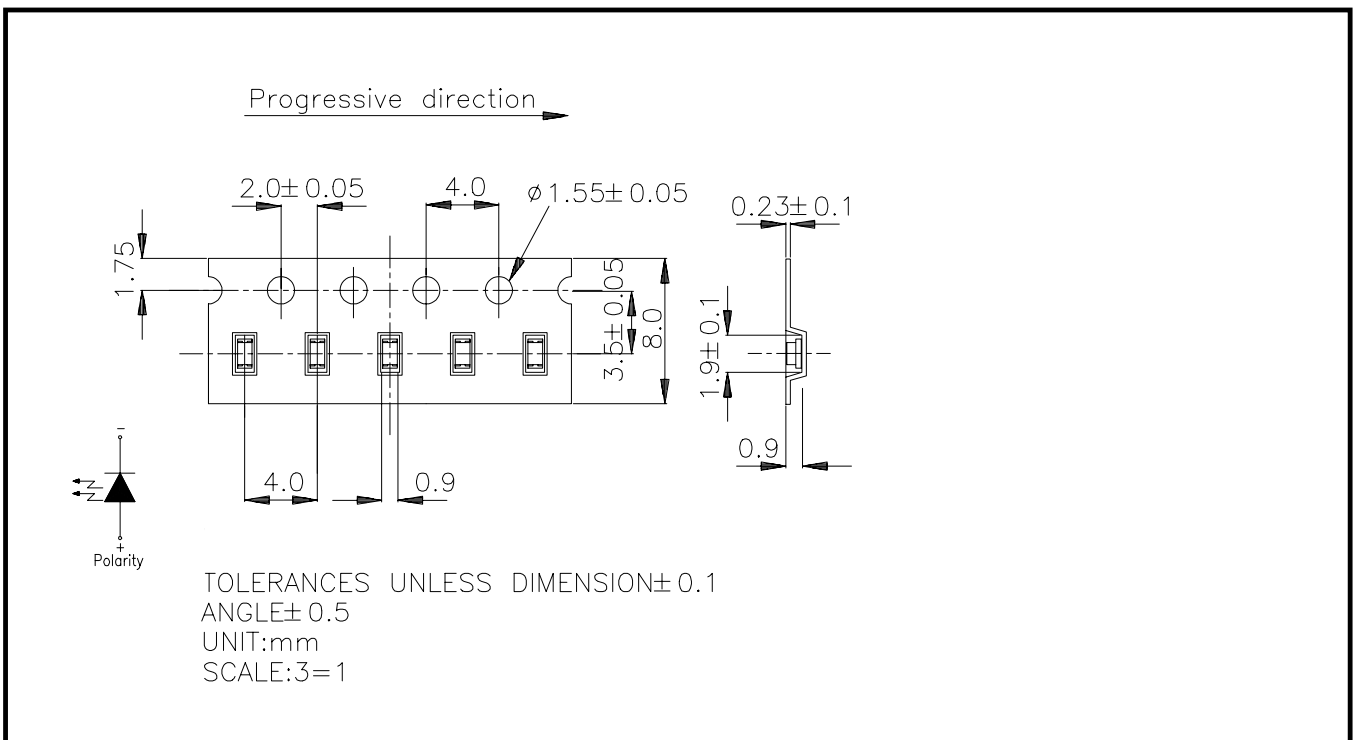
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Package Dimensions :



Loaded quantity per reel 3000 PCS/reel :





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■ **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



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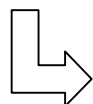
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■ **Electronic Optical Characteristics :**

Parameter	Symbol	*Chip Rank	Min.	Typ.	Max.	Unit	Condition			
Luminous Intensity	Iv	A2	-----	2	-----	mcd	IF=2mA			
			16	40	-----		IF=20mA			
		A3	-----	4	-----		IF=2mA			
			37	58	-----		IF=20mA			
		A4	-----	5	-----		IF=2mA			
			53	80	-----		IF=20mA			
		A5	-----	6	-----		IF=2mA			
			64	101	-----		IF=20mA			
		A6	-----	7	-----		IF=2mA			
			80	122	-----		IF=20mA			
		Viewing Angle	2θ 1/2	-----	-----		100	-----	deg	IF=20mA
		Peak Wavelength	λ p	-----	-----		621	-----	nm	IF=20mA
Dominant Wavelength	λ d	-----	-----	615	-----	nm	IF=20mA			
Spectrum Radiation Bandwidth	△ λ	-----	-----	18	-----	nm	IF=20mA			
Forward Voltage	VF	-----	-----	2.0	2.4	V	IF=20mA			
Reverse Current	IR	-----	-----	-----	10	μ A	VR=5V			

*19-21USOC/S530-XX/TR8



Chip Rank



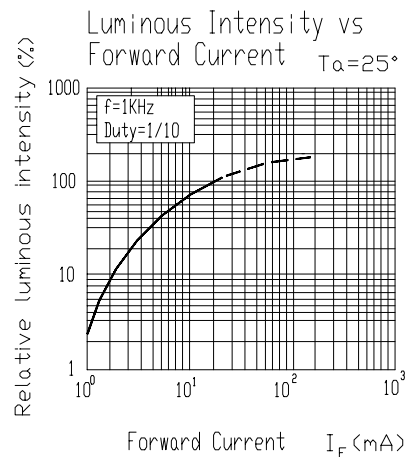
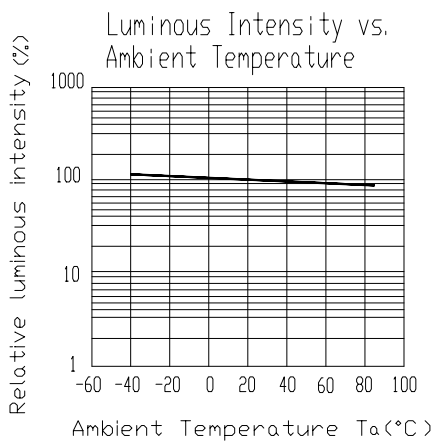
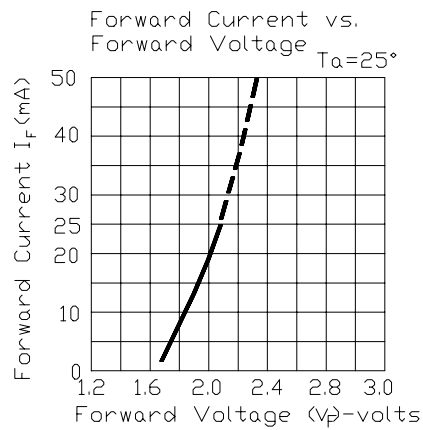
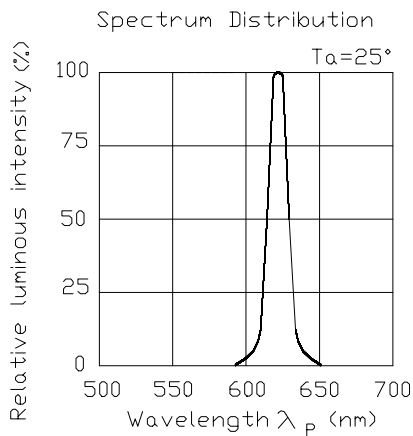
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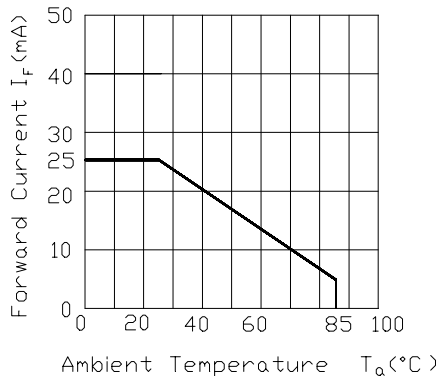
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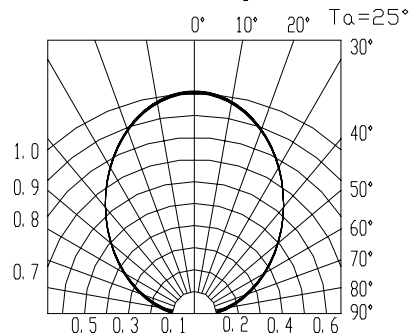
■ **Typical Electro-Optical Characteristic Curves :**



Forward Current Derating Curve



Radiation Diagram





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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 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	I _F = 20 mA	1000 HR.	76 PCS	0/1
7	High Temperature / High Humidity	85°C/RH85%	1000 HR.	76 PCS	0/1



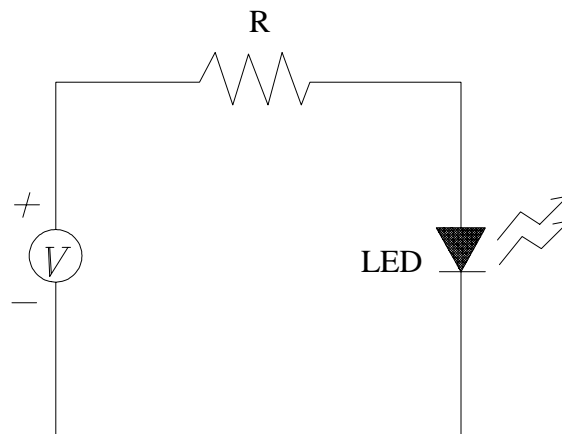
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■ **Test Circuit :**



■ **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 keep 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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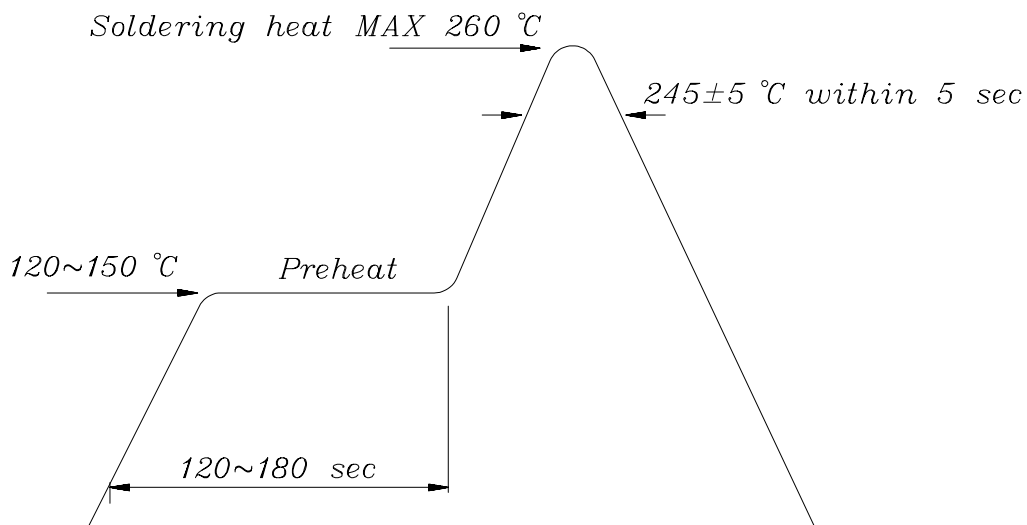
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■ **Soldering heat reliability (DIP) :**

Please refer to the following figure :

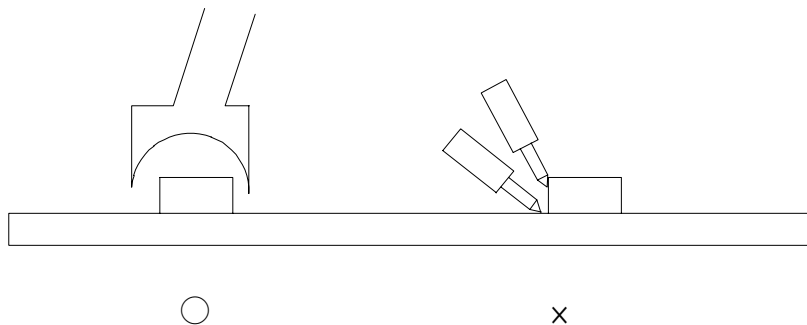


■ **Soldering Iron :**

Basic spec is ≤ 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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■ Reflow Temp./Time :

