



PART NO.: 42-21 SURC/S530-XX/TR8

Device Number : DSE-421-046 REV. 2

1.8mm Round Subminiature LEDs

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Features:

- Package in 12mm tape on 7" diameter reel.
- Compatible with automatic placement equipment.
- Compatible with infrared and vapor phase reflow solder process.
- Mono-color type.
- Pb Free
- The product itself will remain within RoHS compliant version.

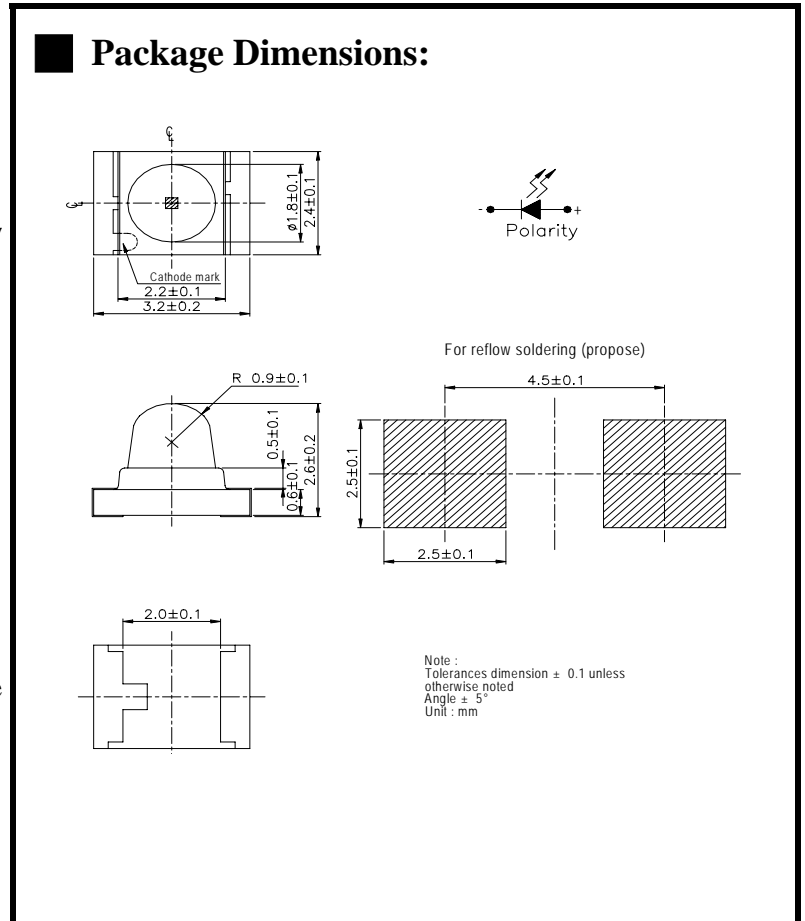
Descriptions:

- The 42-21 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:



Notes :

Tolerances Unless Dimension ±0.1mm
Angle±0.5° Unit = mm

PART NO.	Chip		Lens Color
	Material	Emitted Color	
42-21 SURC/S530-XX/TR8	AlGaInP	Hyper Red	Water Clear

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

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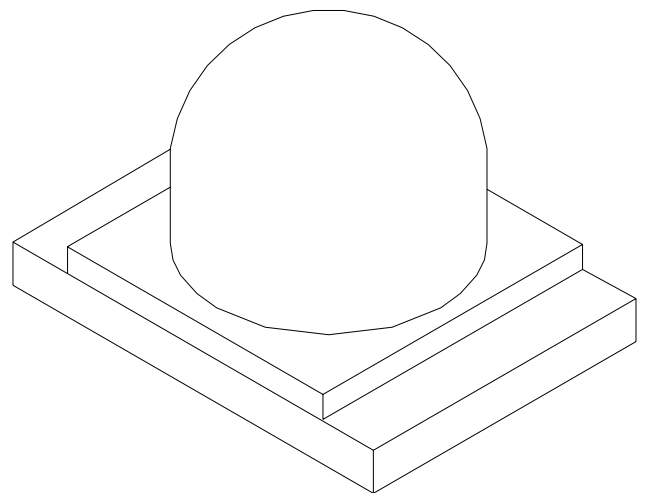
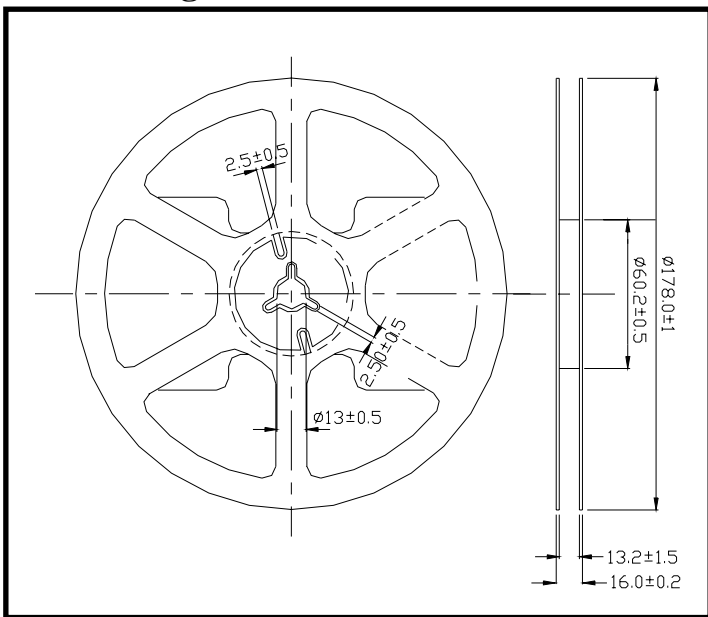
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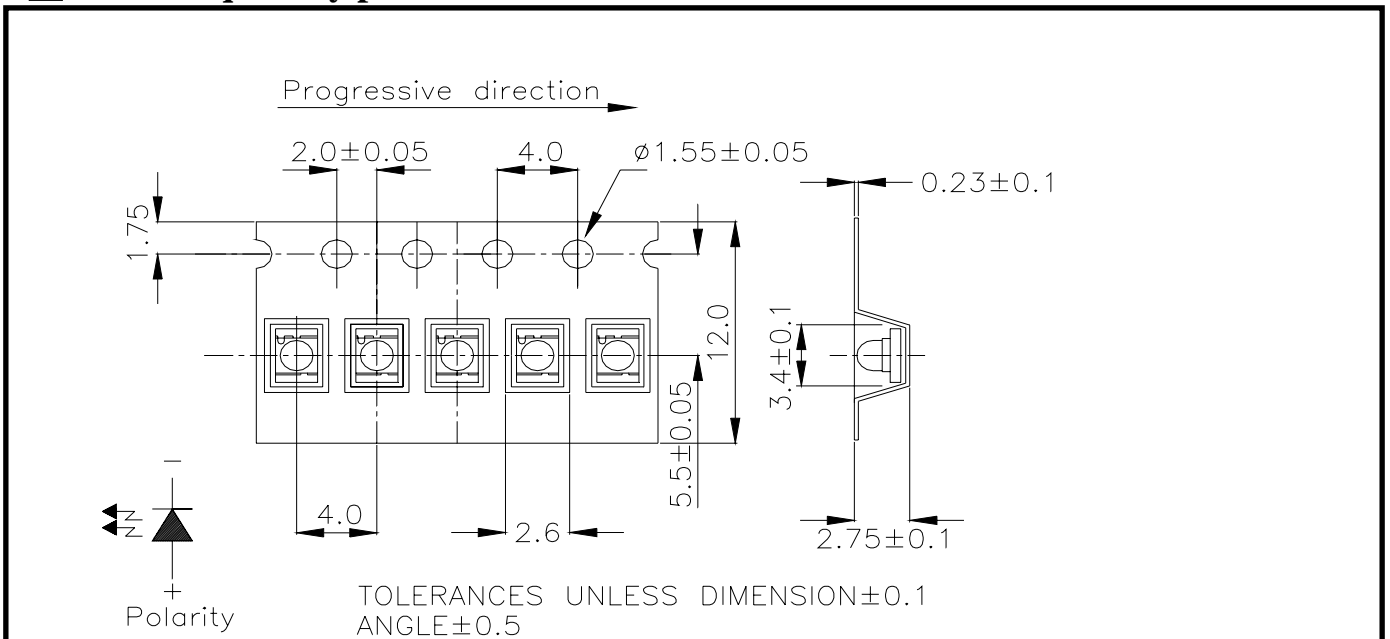
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■ Package Dimensions :



■ Loaded quantity per reel 1000 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
Power Dissipation	P _d	60	mW
Peak Forward Current (Duty 1/10 @ 1KHZ)	I _{F(Peak)}	160	mA



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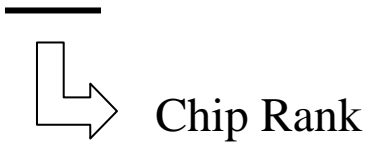
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■ **Electronic Optical Characteristics :**

Parameter	Symbol	*Chip Rank	Min.	Typ.	Max.	Unit	Condition			
Luminous Intensity	I _v	A2	-----	14	-----	mcd	I _F =2mA			
			99	240	-----		I _F =20mA			
		A3	-----	21	-----		I _F =2mA			
			230	345	-----		I _F =20mA			
		A4	-----	28	-----		I _F =2mA			
			316	470	-----		I _F =20mA			
		A5	-----	35	-----		I _F =2mA			
			381	585	-----		I _F =20mA			
		A6	-----	42	-----		I _F =2mA			
			460	707	-----		I _F =20mA			
		Viewing Angle	2θ 1/2	-----	-----		30	-----	deg	I _F =20mA
		Peak Wavelength	λ _p	-----	-----		632	-----	nm	I _F =20mA
Dominant Wavelength	λ _d	-----	-----	624	-----	nm	I _F =20mA			
Spectrum Radiation Bandwidth	Δλ	-----	-----	20	-----	nm	I _F =20mA			
Forward Voltage	V _F	-----	-----	2.0	2.4	V	I _F =20mA			
Reverse Current	I _R	-----	-----	-----	10	μA	V _R =5V			

*42-21SURC/S530-XX/TR8



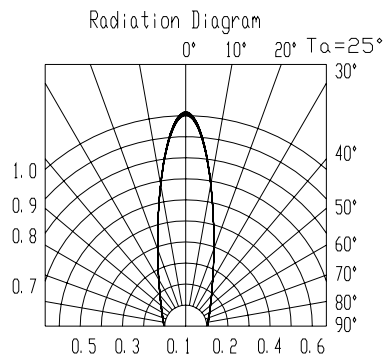
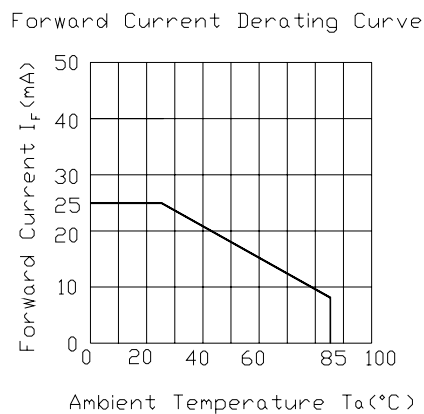
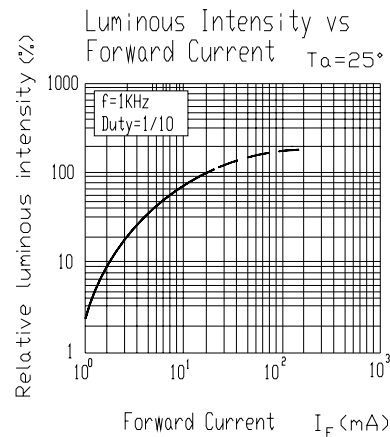
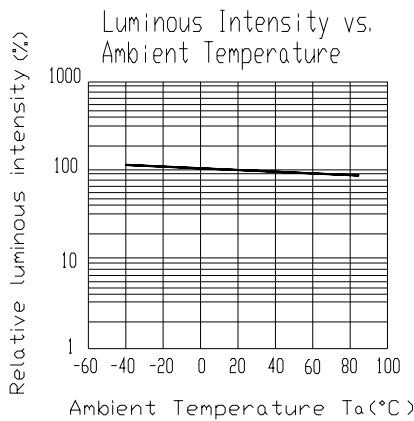
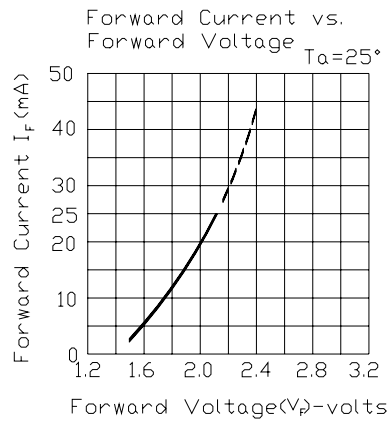
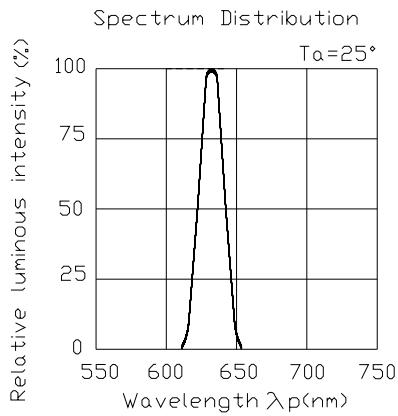
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■ Typical Electro-Optical Characteristic Curves :



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■ Reliability Test Item And Condition :

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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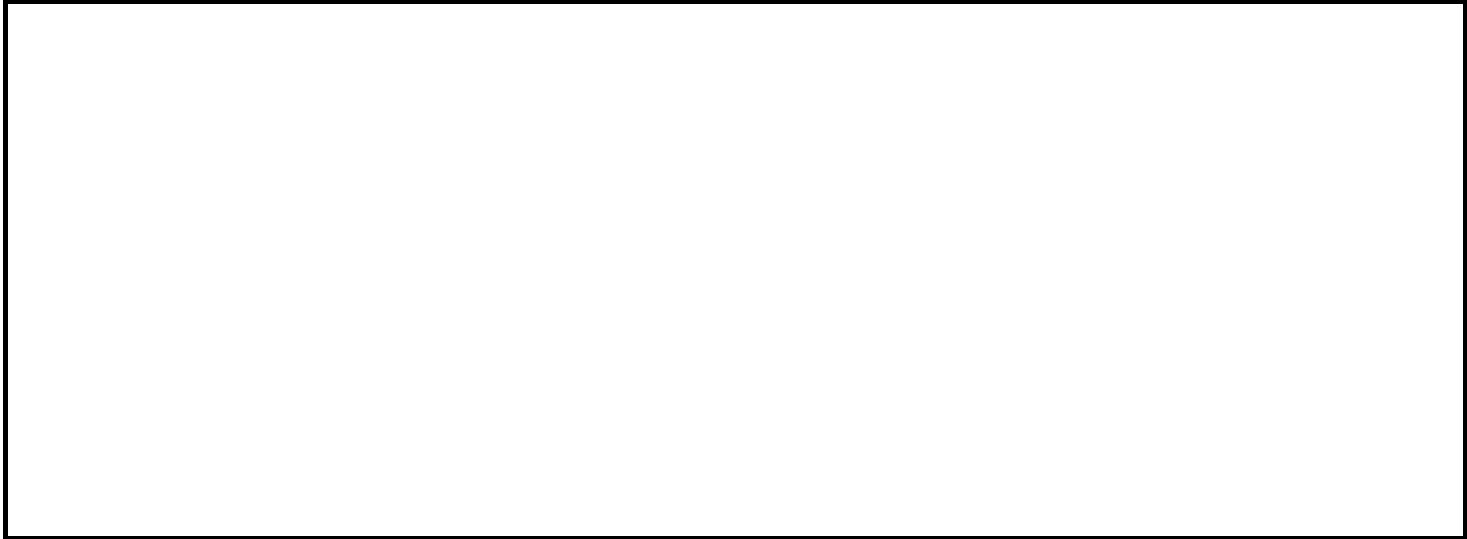
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■ Test Circuit :



■ **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 RH are : $5^{\circ}\text{C} \sim 35^{\circ}\text{C}$, RH60% .

2.2 Once the package is opened, the products should be used within a week. Otherwise, they should be keeping 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 $5^{\circ}\text{C} \sim 35^{\circ}\text{C}$, RH60% , 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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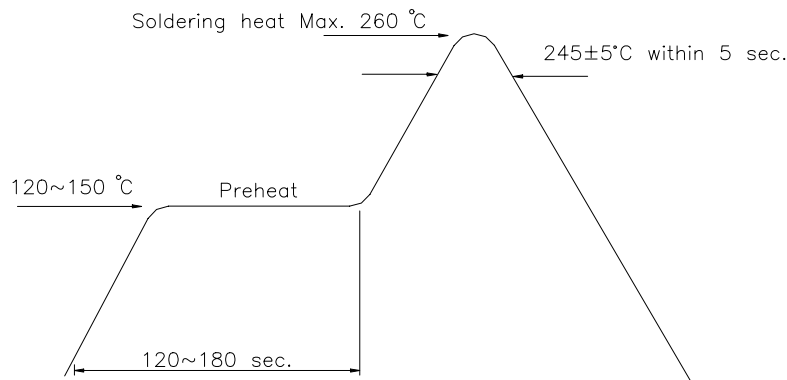
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■ Soldering heat reliability (DIP)

Please refer to the following figure :

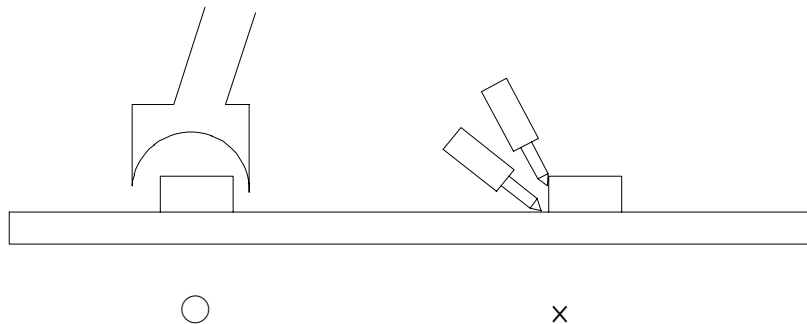


■ Soldering Iron

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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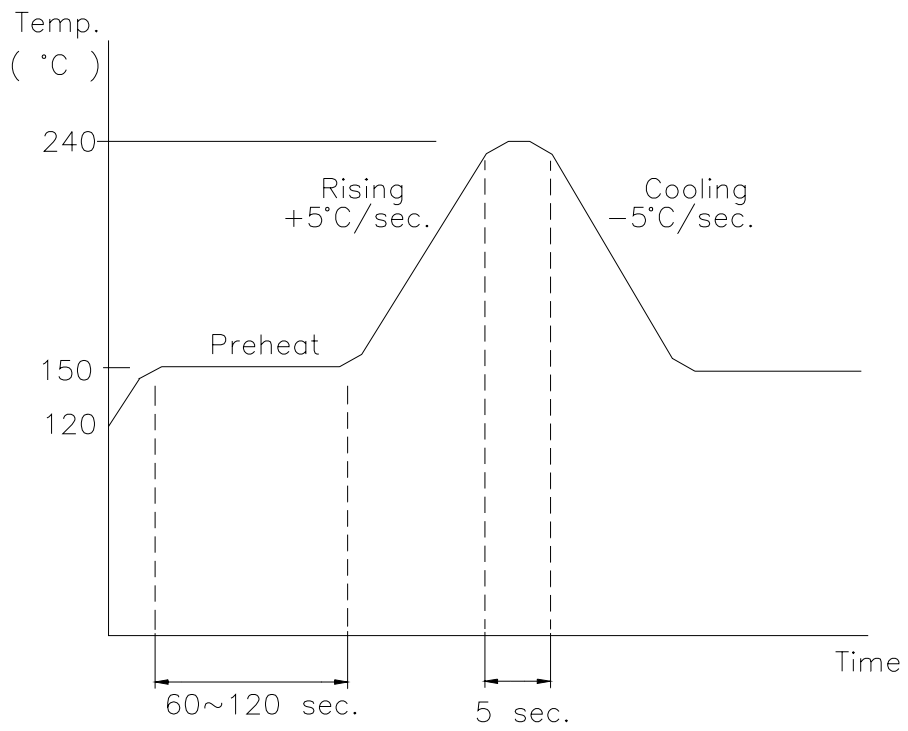
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■ Reflow Temp./Time :



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