EVERLIGHT ELECTRONICS CO., LTD.

MODEL NO: 42-21SYGC/S530-E2/TR8 Device Number： DSE-421-035 REV. 1.0

1.8mm Round Subminiature LEDs

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Features：

- Package in 12 mm tape on 7″ diameter reel.
- Compatible with automatic placement equipment.
- Compatible with infrared and vapor phase reflow solder process.
- Mono-color type.

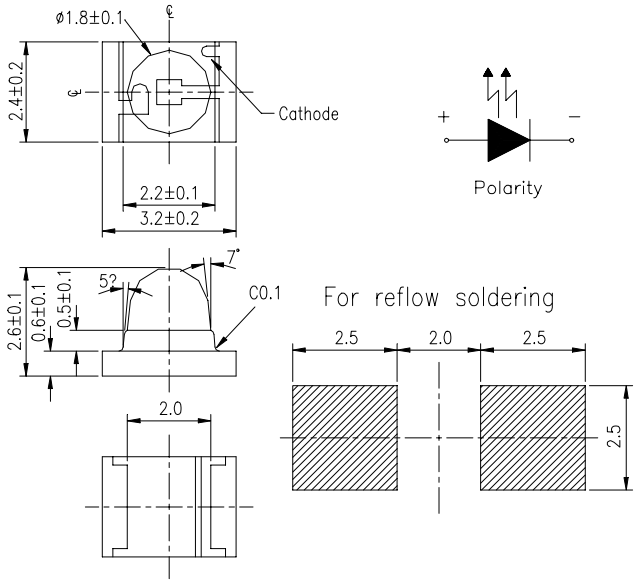
Descriptions：

- 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, 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.

Package Dimensions：



Notes：

Tolerances Unless Dimension ± 0.1mm

Angle± 0.5°

Unit = mm

PART NO	Chip		Lens Color
	Material	Emitted Color	
42-21SYGC/S530-E2/TR8	AlGaInP	Super Yellow Green	Water Clear

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http: //www.everlight.com

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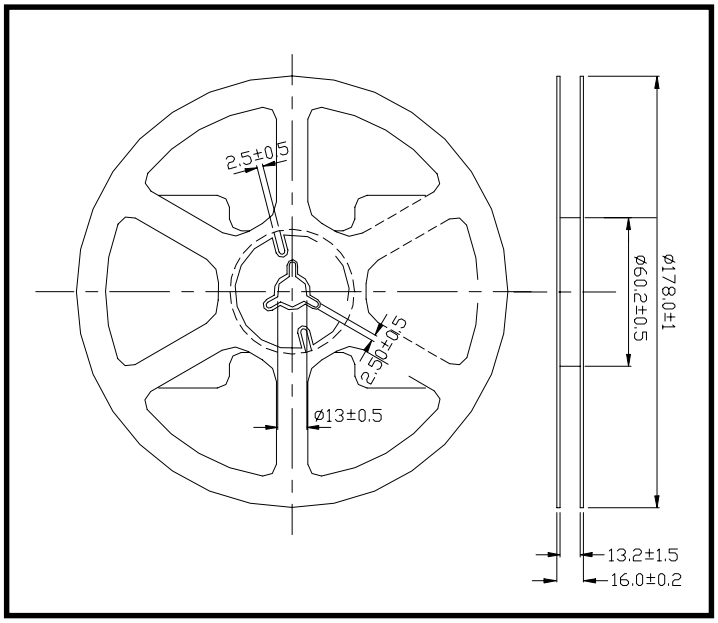
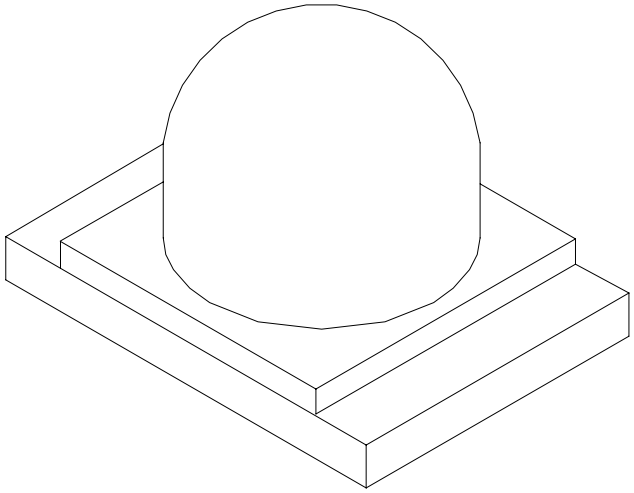
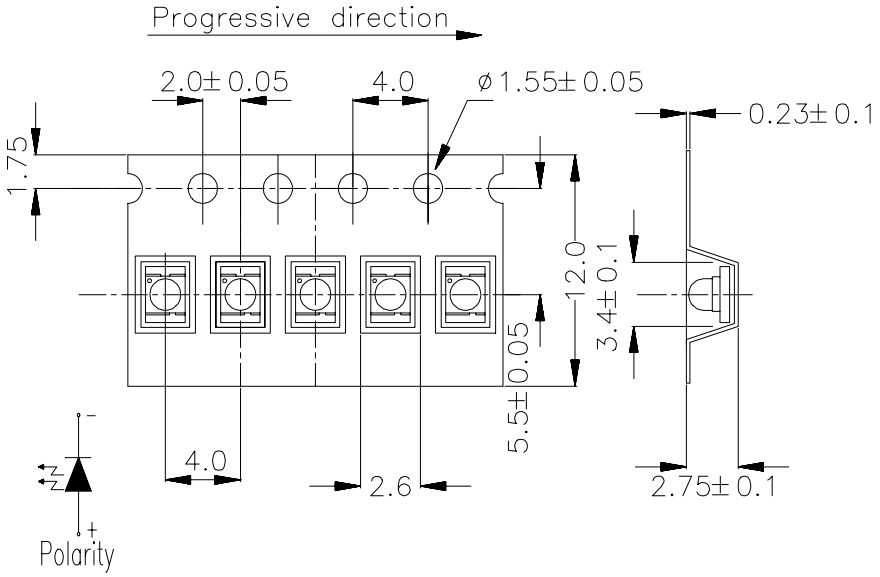
■ Package Dimensions：





■ Loaded quantity per reel 1000 pcs/reel：



TOLERANCES UNLESS DIMENSION± 0.1
ANGLE± 0.5
UNIT:mm

■ Absolute Maximum Ratings at Ta = 25℃ ：

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

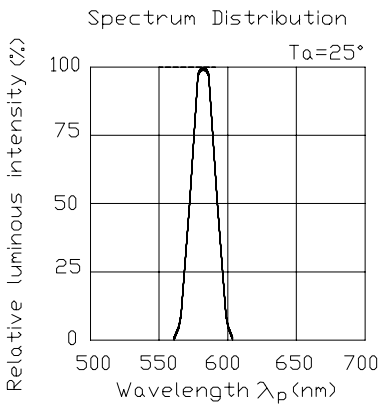
■ Electronic Optical Characteristics :

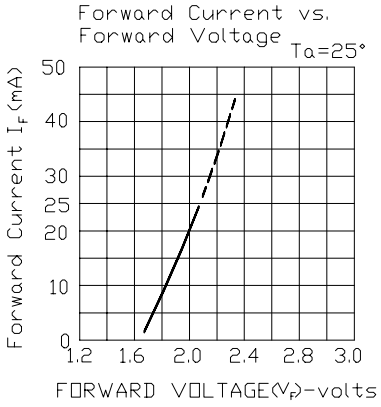
Parameter	Symbol	Min.	Typ.	Max.	Unit	Condition
Luminous Intensity	Iv	-----	20	-----	mcd	I_F=2 mA
		228	342	-----	mcd	I_F=20mA
Viewing Angle	2 θ 1/2	-----	30	-----	deg	I_F=20mA
Peak Wavelength	λ p	-----	575	-----	nm	I_F=20mA
□□□□□□□ □ □□□□□□□□□	λ d	-----	573	-----	nm	I_F=20mA
Spectrum Radiation Bandwidth	△ λ	-----	20	-----	nm	I_F=20mA
Forward Voltage	V_F	-----	2.0	2.4	V	I_F=20mA
Reverse Current	I_R	-----	-----	10	μ A	V_R=5V

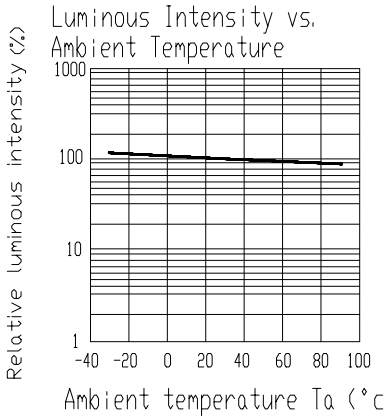
■ Reliability Test Items And Conditions:

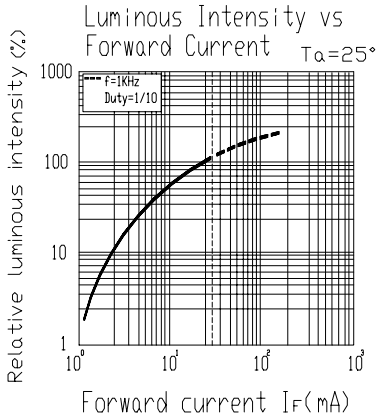
NO	Item	Test Conditions	Test Hours/Cycle	Sample Size	Ac/Re
1	Solder Heat	TEMP : 260℃ ± 5 ℃	5 SEC	76 PCS	0/1
2	Temperature Cycle	H : +85℃ 30min ∫ 5 min L : -55℃ 30min	50 CYCLE	76 PCS	0/1
3	Thermal Shock	H : +100℃ 5min ∫ 10 sec L : -10℃ 5min	50 CYCLE	76 PCS	0/1
4	High Temperature Storage	TEMP : 100℃	1000 HRS	76 PCS	0/1
5	Low Temperature Storage	TEMP : -55℃	1000 HRS	76 PCS	0/1
6	DC Operating Life	I_F= 20 mA	1000 HRS	76 PCS	0/1
7	High Temperature / High Humidity	85℃/85% RH	1000 HRS	76 PCS	0/1

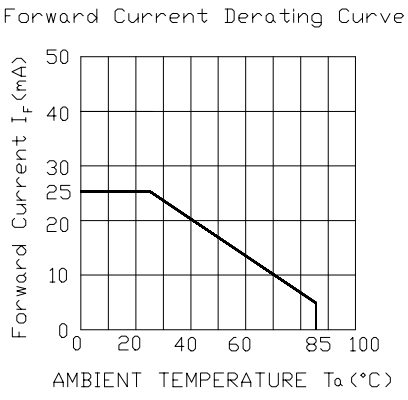
■ Typical Electro-Optical Characteristic Curves :

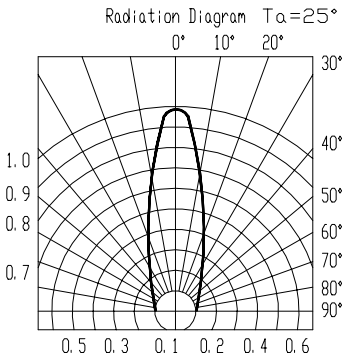




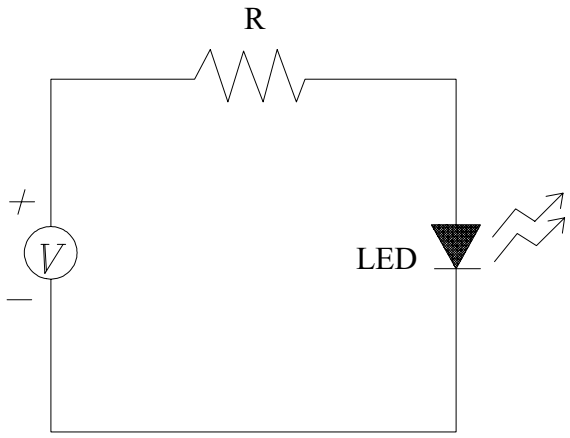








■ Test Circuit :



■ 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℃~35℃, R.H.60%.

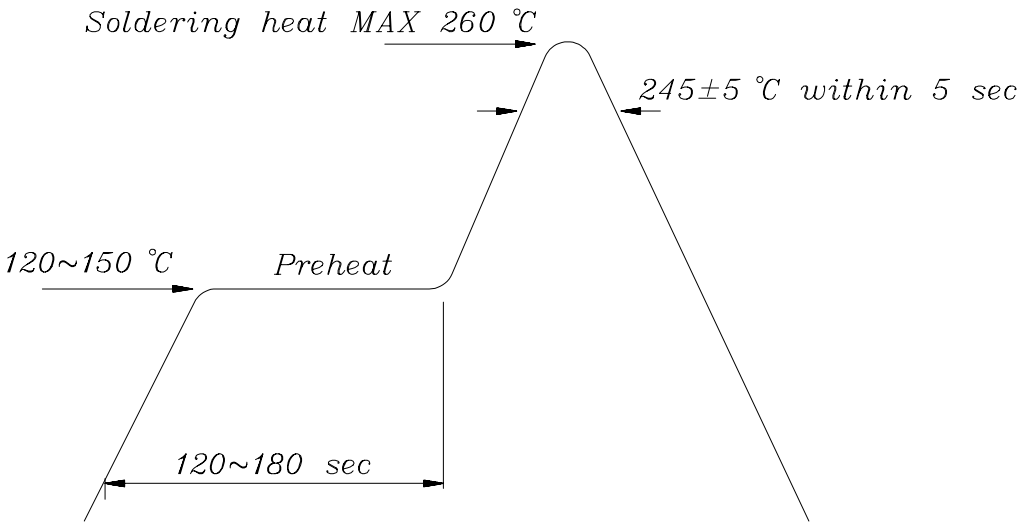
2.2 Once the package is opened, the products should be used within a week. Otherwise, they should be kept in a damp proof box with desiccanting agent. Considering the tape life , we suggest our customers to use our products within a year(from production date).

2.3 If opened more than one week in an atmosphere 5℃~35℃, R.H.60%, they should be treated at 60℃± 5℃ 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) :**

Please refer to the following figure :

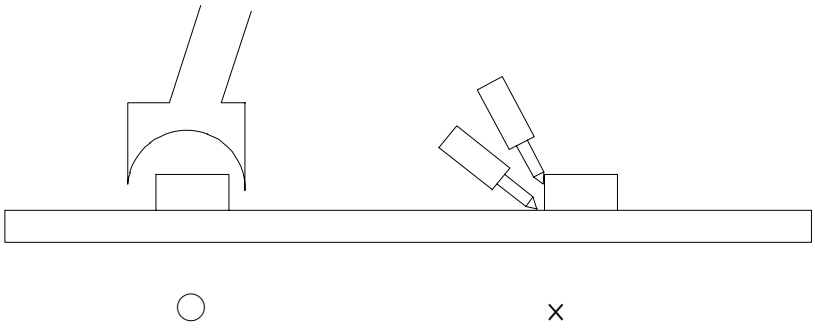
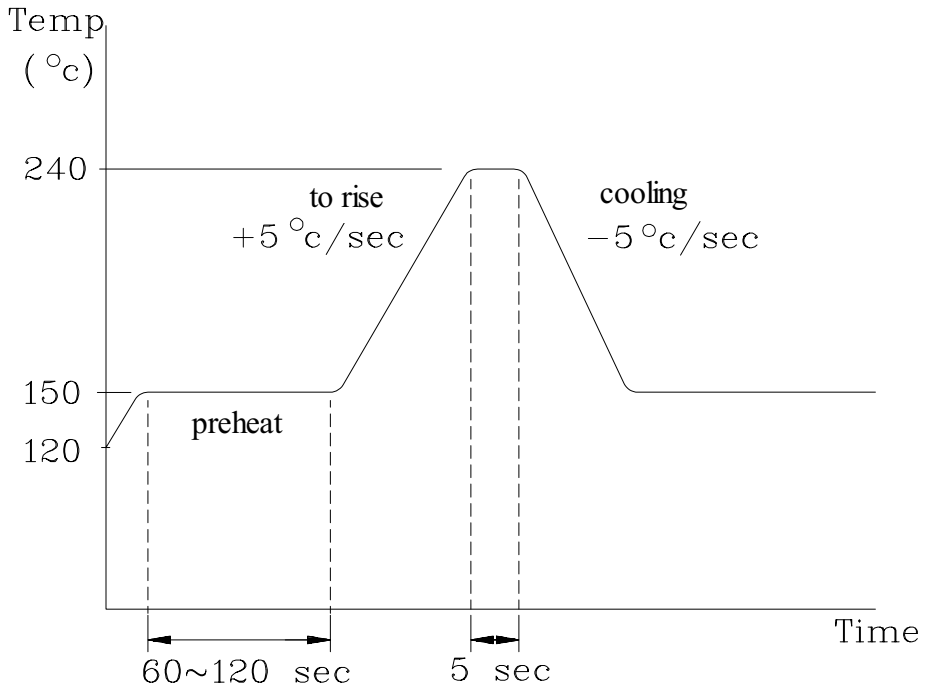


■ **Soldering Iron :**

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

■ **Rework :**

1. Customer must finish rework within 5 sec under 260℃.
2. The head of iron can not touch copper foil.
3. Twin-head type is preferred.



■ Reflow Temp / Time :