EVERLIGHT ELECTRONICS CO.,LTD.

Technical Data Sheet

1206 Package Chip LED (1.1 mm Height)

15-21SYGC/S530-XX/TR8

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.
- Pb-free.
- The product itself will remain within RoHS complaint version.

Descriptions

- The 15-21 SMD Taping is much smaller than lead frame type components, thus enable smaller board size, higher packingdensity, reduced storage space and finally smaller equipment to be obtained.
- Besides, lightweight makes them ideal for miniature applications. etc.

Applications

- Telecommunication: indicator and backlighting in telephone and fax.
- Flat backlight for LCD, switch and symbol.
- General use.

Device Selection Guide

D. AND			
Part No.	Material	Emitted Color	Lens Color
15-21SYGC/S530-XX/TR8	AlGaInP	Brilliant Yellow Green	Water Clear



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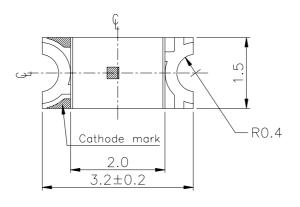
Prepared date: 19-Aug-2005

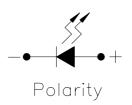
Prepared by: Meng Yali

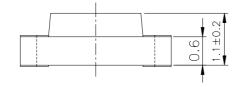
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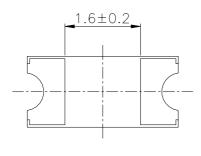
Package Outline Dimensions

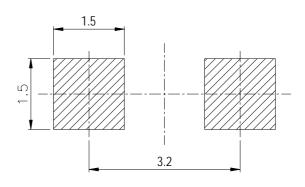






For reflow soldering (propose)





Note: Tolerances Unless Dimension is ± 0.1 mm, Unit = mm

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15-21SYGC/S530-XX/TR8

Absolute Maximum Ratings (Ta=25°C)

Parameter	Symbol	Rating	Unit	
Reverse Voltage	VR	5	V	
Forward Current	IF	25	mA	
Operating Temperature	Topr	-40 ~ +85	${\mathbb C}$	
Storage Temperature	Tstg	-40~ +90	${\mathbb C}$	
Electrostatic Discharge(HBM)	ESD	2000	V	
Power Dissipation	Pd	60	mW	
Peak Forward Current (Duty 1/10 @1KHz)	I F	60	mA	
Soldering Temperature	Tsol	Reflow Soldering: 260 °C for 10 sec. Hand Soldering: 350 °C for 3 sec.		

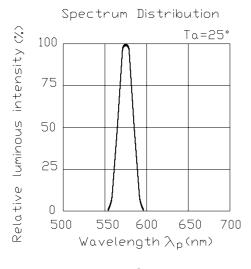
Electro-Optical Characteristics (Ta=25°C)

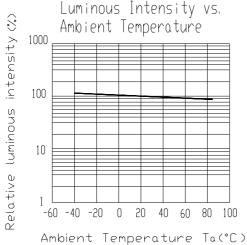
Parameter	Symbo 1	*Chip Rank	Min.	Тур.	Max.	Unit	
		E2	15	21			
Luminous Intensity	Iv	E3	25	32			
		E4	35	43		mcd	
		E5	45	54			
Viewing Angle	2 \theta 1/2			130		deg	I _F =20 mA
Peak Wavelength	λρ			575		nm	
Dominant Wavelength	λd			573		nm	
Spectrum	Δλ			20		nm	
RadiatioBandwidth							
Forward Voltage	VF		1.7	2.0	2.4	V	
Reverse Current	Ir				10	μ A	V _R =5V

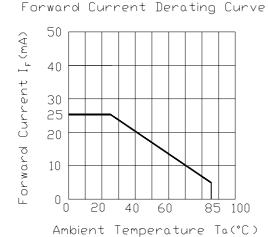
*15-21SYGC/S530-XX/TR8 Chip Rank

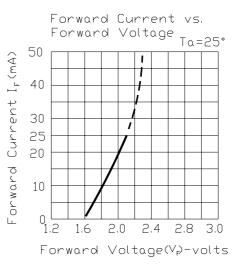
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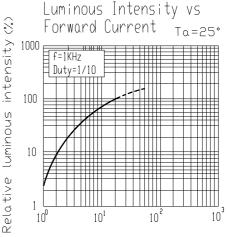
Typical Electro-Optical Characteristics

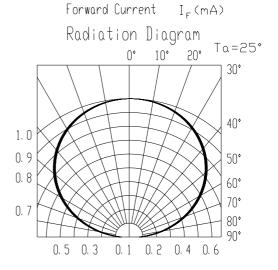












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Label explanation

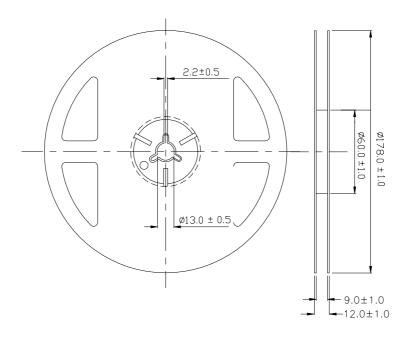
CAT: Luminous Intensity Rank

HUE: Dom. Wavelength Rank

REF: Forward Voltage Rank



Reel Dimensions



Note: The tolerances unless mentioned are ± 0.1 , Unit = mm.

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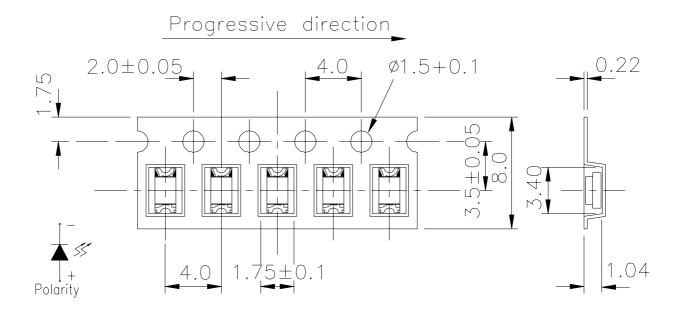
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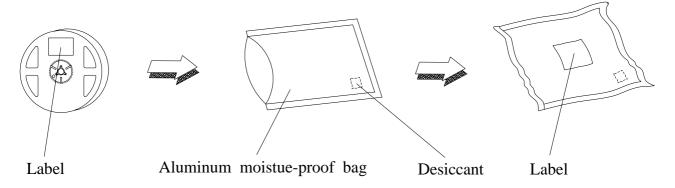
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Carrier Tape Dimensions: Loaded quantity 2000 PCS per reel



Note: Tolerances Unless Dimension is ± 0.1 mm, Unit = mm

Moisture Resistant Packaging



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Reliability Test Items And Conditions

The reliability of products shall be satisfied with items listed below.

Confidence level: 90%

LTPD: 10%

No.	Items	Test Condition	Test Hours/Cycles	Sample Size	Ac/Re
1	Reflow Soldering	Temp. : 260°C±5°C 5 sec.	6 Min.	22 Pcs.	0/1
2	Temperature Cycle	$H: +100^{\circ}\mathbb{C}$ 15min \int 5 min $L: -40^{\circ}\mathbb{C}$ 15min	300 Cycles	22 PCS.	0/1
3	Thermal Shock	$H: +100^{\circ}\mathbb{C}$ 5min $\int 10 \sec$ $L: -10^{\circ}\mathbb{C}$ 5min	300 Cycles	22 PCS.	0/1
4	High Temperature Storage	Temp. : 100°€	1000 Hrs.	22 PCS.	0/1
5	Low Temperature Storage	Temp. : -40°℃	1000 Hrs.	22 PCS.	0/1
6	DC Operating Life	$I_F = 20 \text{ mA}$	1000 Hrs.	22 PCS.	0/1
7	High Temperature / High Humidity	85°C/85%RH	1000 Hrs.	22 PCS.	0/1

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Precautions For Use

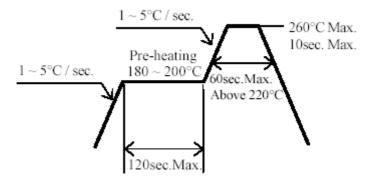
1. Over-current-proof

Customer must apply resistors for protection, otherwise slight voltage shift will cause big current change (Burn out will happen).

- 2. Storage
- 2.1 Do not open moisture proof bag before the products are ready to use.
- 2.2 Before opening the package, the LEDs should be kept at 30°C or less and 90%RH or less.
- 2.3 The LEDs should be used within a year.
- 2.4 After opening the package, the LEDs should be kept at 30°C or less and 60%RH or less.
- 2.5 The LEDs should be used within 168 hours (7 days) after opening the package.
- 2.6 If the moisture absorbent material (silica gel) has faded away or the LEDs have exceeded the storage time, baking treatment should be performed using the following conditions.

Baking treatment : $60\pm5^{\circ}$ C for 24 hours.

- 3. Soldering Condition
- 3.1 Pb-free solder temperature profile



- 3.2 Reflow soldering should not be done more than two times.
- 3.3 When soldering, do not put stress on the LEDs during heating.
- 3.4 After soldering, do not warp the circuit board.

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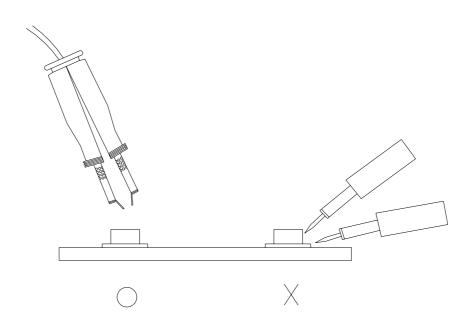


4. Soldering Iron

Each terminal is to go to the tip of soldering iron temperature less than 350° C for 3 seconds within once in less than the soldering iron capacity 25W. Leave two seconds and more intervals, and do soldering of each terminal. Be careful because the damage of the product is often started at the time of the hand solder.

5.Repairing

Repair should not be done after the LEDs have been soldered. When repairing is unavoidable, a double-head soldering iron should be used (as below figure). It should be confirmed beforehand whether the characteristics of the LEDs will or will not be damaged by repairing.



EVERLIGHT ELECTRONICS CO., LTD.

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