



## Technical Data Sheet

# 0.8mm Height Flat Top LED

### 19-21SYGC/S530-E4/S204/TR8

#### Features

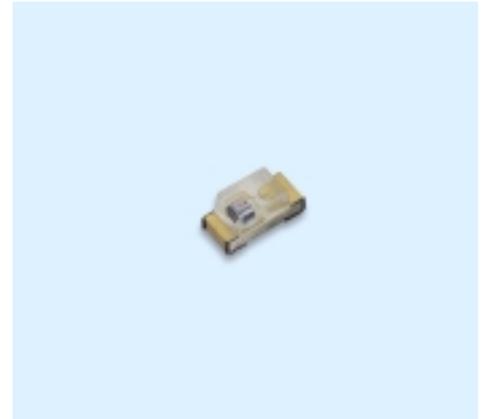
- Package in 8mm tape on 7" diameter reel.
- Compatible with automatic placement equipment.
- Compatible with infrared and vapor phase reflow solder process.
- Mono-color type.

#### 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, lightweight makes them ideal for miniature applications. etc.

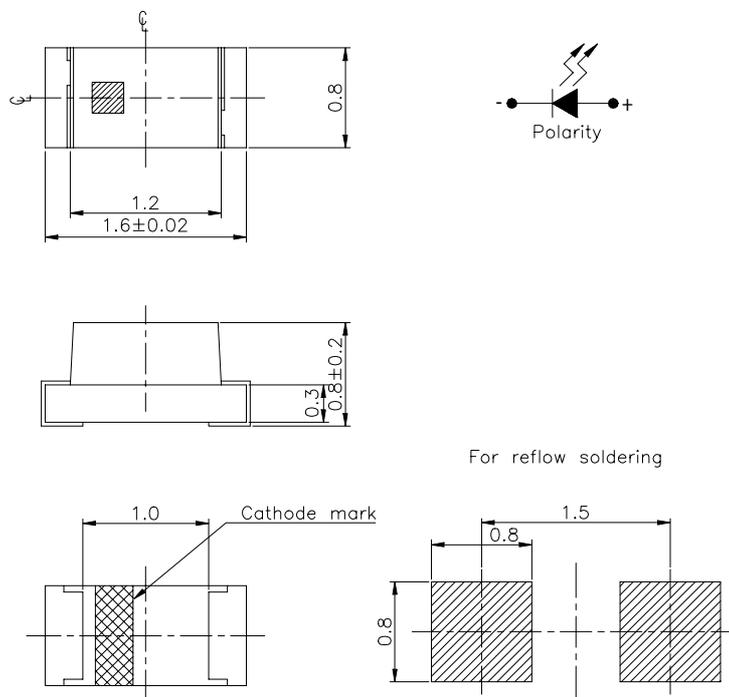
#### Applications

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



#### Device Selection Guide

Chip		Lens Color
Material	Emitted Color	
AlGaInP	Super Yellow Green	Water Clear

**19-21SYGC/S530-E4/S204/TR8**
**Package Outline Dimensions**


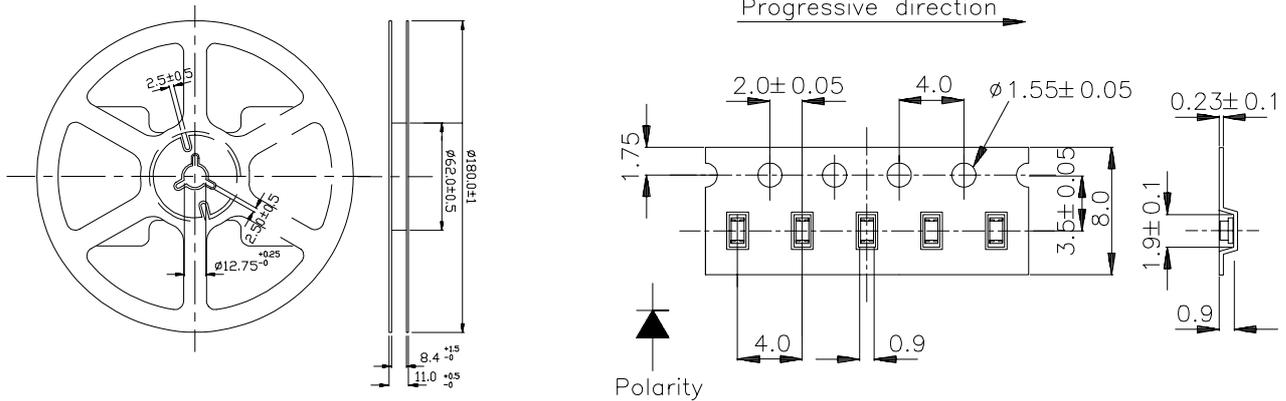
**Notes:** Tolerances Unless Dimension  $\pm 0.1\text{mm}$  , Angle  $\pm 0.5^\circ$  ,Unit = mm

**Absolute Maximum Ratings (Ta=25°C)**

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

**19-21SYGC/S530-E4/S204/TR8**
**Electro-Optical Characteristics (Ta=25°C)**

Parameter	Symbol	Min.	Typ.	Max.	Unit	Condition
Luminous Intensity	Iv	25	-----	63	Mcd	If=20mA
Viewing Angle	2θ 1/2	-----	100	-----	Deg	If=20mA
Peak Wavelength	λ p	-----	575	-----	Nm	If=20mA
Dominant Wavelength	λ d	570	-----	577	Nm	If=20mA
Spectrum Radiation Bandwidth	△ λ	-----	20	-----	nm	If=20mA
Forward Voltage	V <sub>F</sub>	2.0	-----	2.4	V	If=20mA
Reverse Current	I <sub>R</sub>	-----	-----	10	μ A	V <sub>R</sub> =5V

**Reel & Carrier Tape Dimensions**
**Loaded quantity per reel 3000 PCS/reel**

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



**19-21SYGC/S530-E4/S204/TR8**

**Bin Range Of Luminous Intensity  $I_F=20mA$**

Bin	Min	Max	Unit
N1	25	40	mcd
N2	32	50	mcd
P1	40	63	mcd

**Bin Range Of Dom. Wavelength  $I_F=20mA$**

Bin	Min	Max	Unit
1	570	573	nm
2	572	575	nm
3	574	577	nm

**Label explanation**

**CAT: Luminous Intensity (mcd) HUE: Dom. Wavelength (nm) REF: Forward Voltage (V)**

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CPN :

P/N: XXXXXXXXXXXX



XX-XXXXXXXX

QTY: XXXX



LOT NO: XXXXXXXXXXX



CAT:

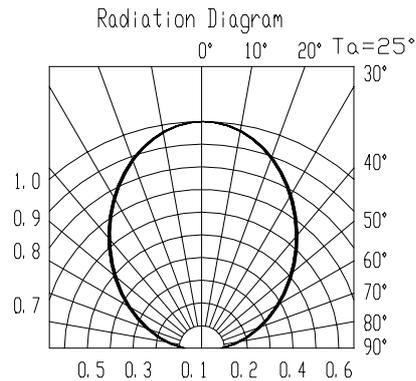
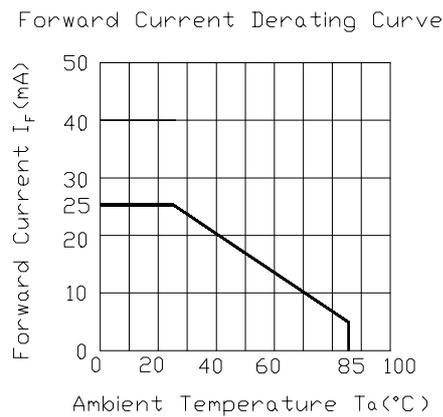
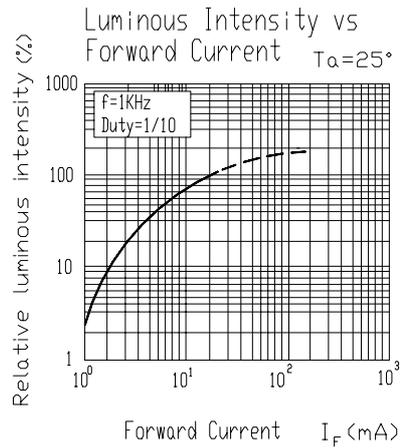
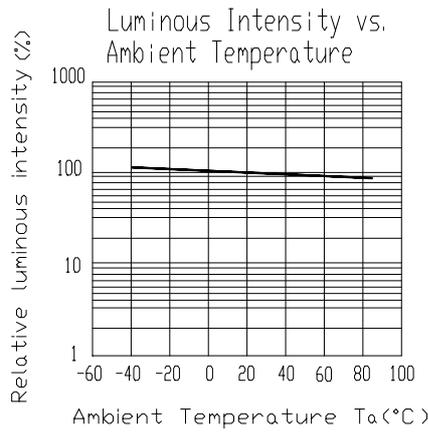
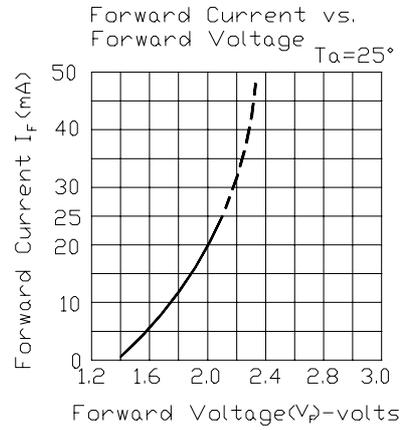
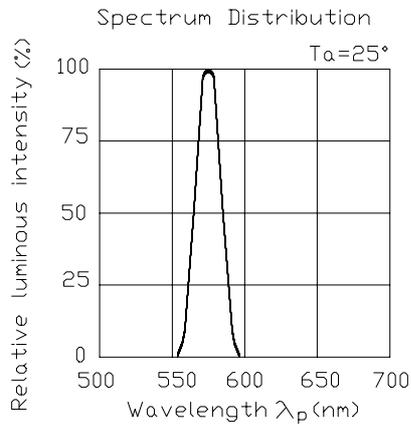
HUE:

REF:

MADE IN TAIWAN

Iv λd VF

**Typical Electro-Optical Characteristics Curves**



**19-21SYGC/S530-E4/S204/TR8****Reliability Test Items And Conditions**

No.	Items	Test Condition	Test Hours/Cycles	Sample Size	Ac/Rc
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 Hrs.	76 PCS.	0/1
5	Low Temperature Storage	Temp. : -55°C	1000 Hrs.	76 PCS.	0/1
6	DC Operating Life	I <sub>F</sub> = 20 mA	1000 Hrs.	76 PCS.	0/1
7	High Temperature / High Humidity	85°C /RH85%	1000 Hrs.	76 PCS.	0/1

**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

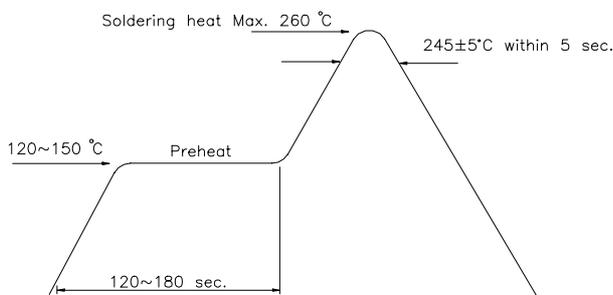
2.1 The operation of Temperature and RH are : 5°C~35°C, RH60%.

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 desiccating agent. Considering the tape life , we suggest our customers to use our products within a year(from production date).

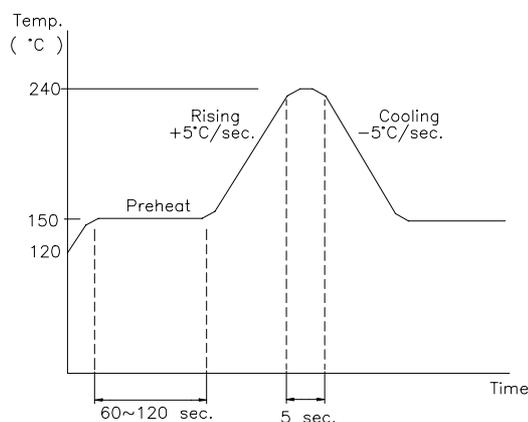
2.3 If opened more than one week in an atmosphere 5°C~35°C, RH 60%, they should be treated at 60°C± 5°C for 15hrs.

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.

**Soldering heat reliability ( DIP )**



**Reflow Temp / Time**

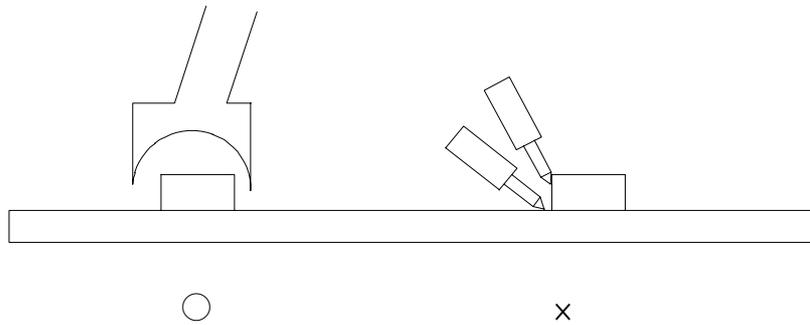


**Soldering Iron**

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 245°C.
2. The head of iron can not touch copper foil.
3. Twin-head type is preferred.

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