

0.8mm Height Flat Top LEDs

■ 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.

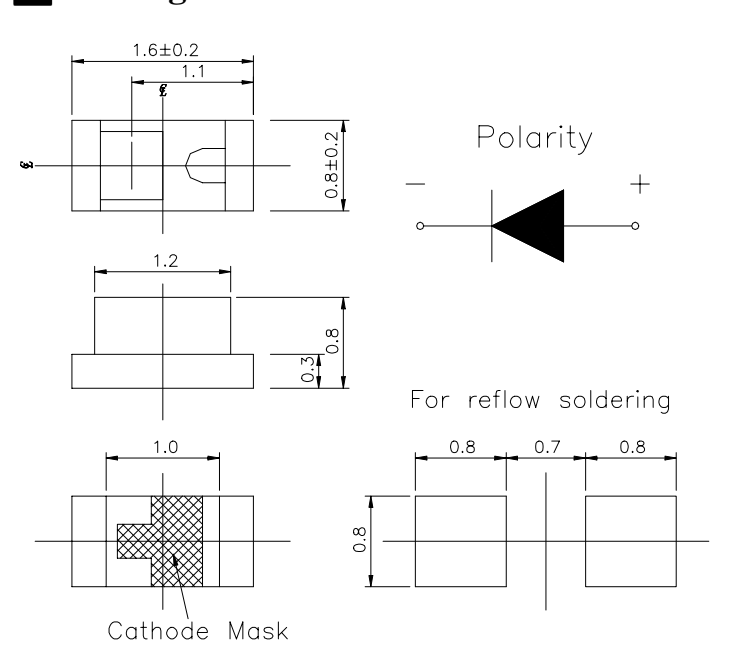
■ Description :

- The 19-21 SMD Taping is much smaller than leaded 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 application, 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 :

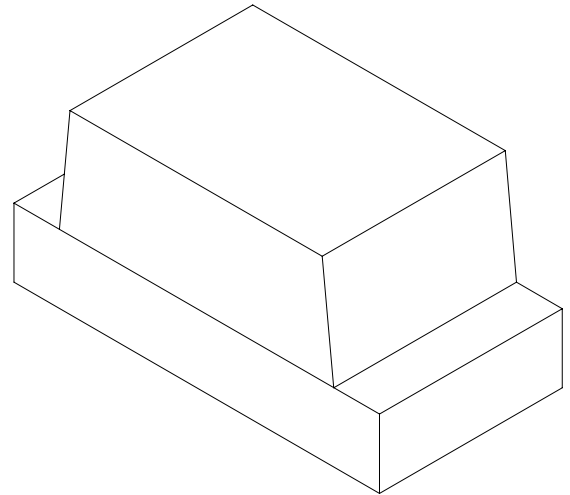
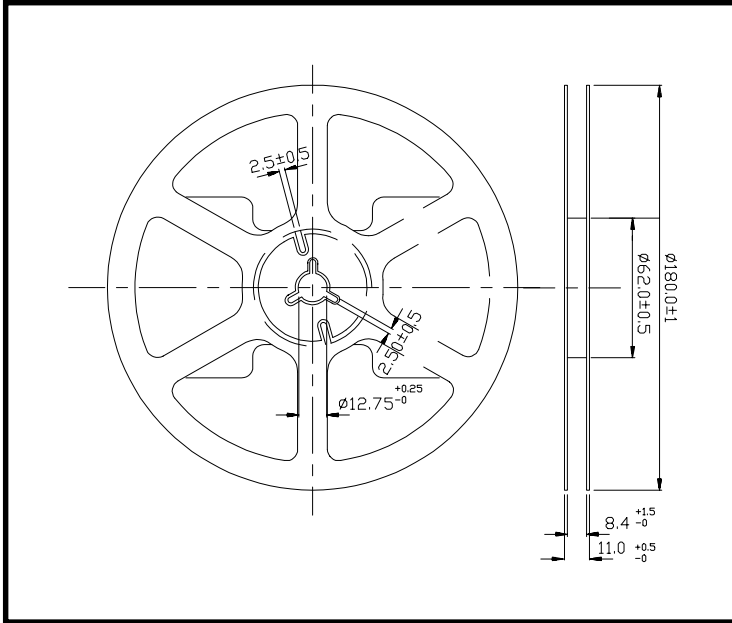


■ Notes :

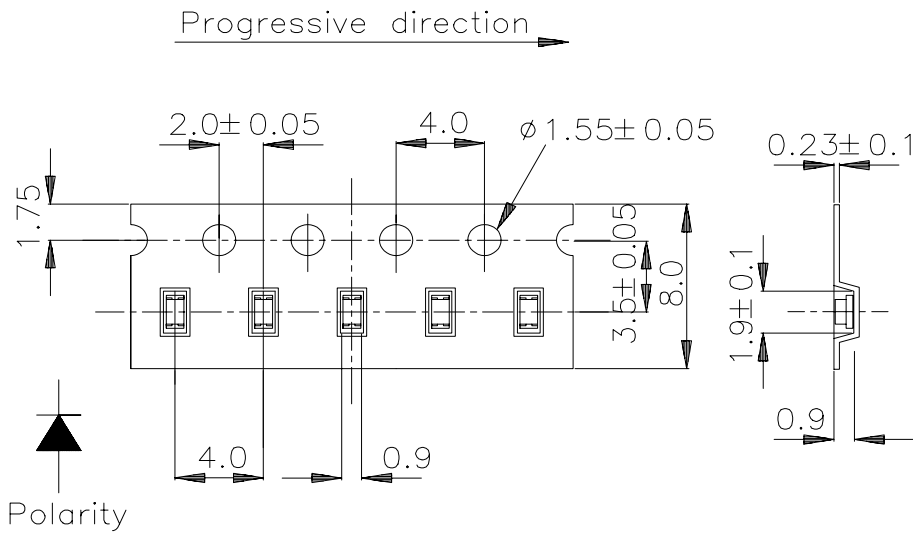
Tolerances Unless Dimension ± 0.1 mm
 Angle $\pm 0.5^\circ$
 Unit = mm

PART NO	CHIP		Lens Color
	Material	Emitted Color	
19-21UYOC/S530-A2/TR8	AlGaInP	Super Yellow Orange	Water Clear

Package Dimensions :



Loaded quantity per reel 3000 pcs/reel :



TOLERANCES UNLESS DIMENSION ± 0.1
 ANGLE ± 0.5
 UNIT:mm
 SCALE:3=1

■ **Absolute Maximum Ratings at Ta = 25°C**

Parameter	Symbol	Rating	Unit
Reverse Voltage	Vr	5	V
Forward Current	If	25	mA
Operating Temperature	Topr	-20 ~ +80	°C
Storage Temperature	Tstg	-30 ~ +100	°C
Soldering Temperature	Tsol	260 (for 5 second)	°C
Electrostatic Discharge	ESD	2000	V
Power Dissipation	Pd	60	mW
Peak Forward Current(Duty 1/10 @ 1KHZ)	If(Peak)	160	mA

■ **Electronic Optical Characteristics :**

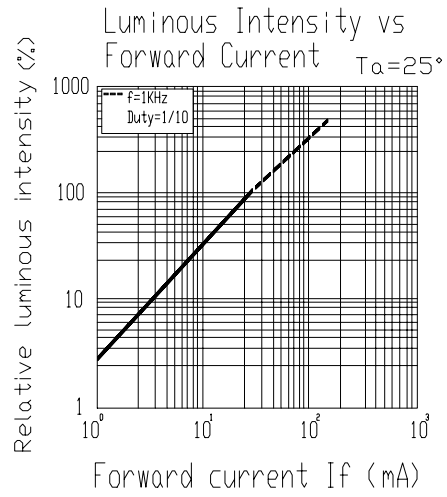
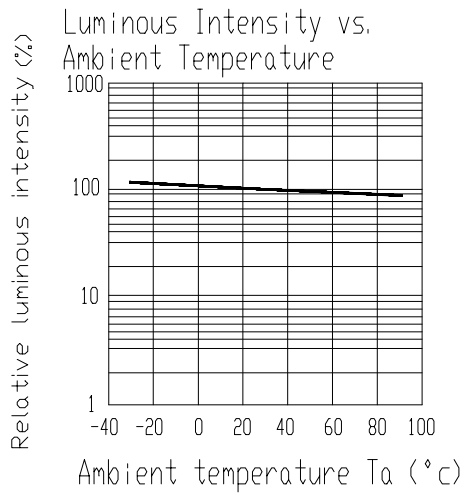
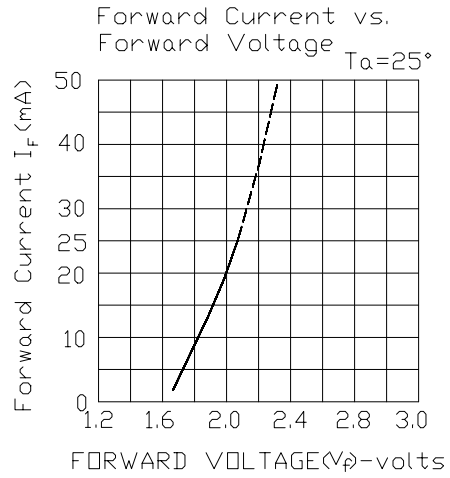
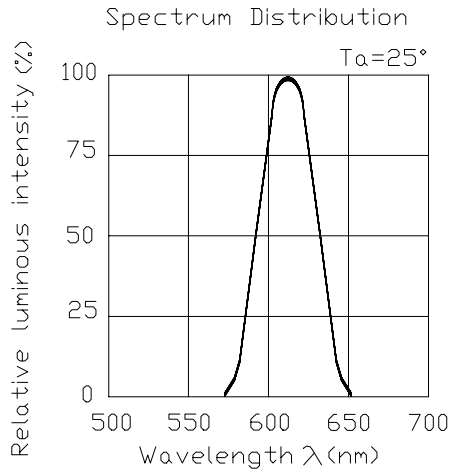
Parameter	Symbol	Min.	Typ.	Max.	Unit	Condition
Luminous intensity	Iv	-----	2	-----	mcd	If=2mA
		16	40	-----	mcd	If=20mA
Viewing Angle	2θ 1/2	-----	100	-----	deg	If=20mA
Peak Wavelength	λ p	-----	611	-----	nm	If=20mA
Dominant Wavelength	λ d	-----	605	-----	nm	If=20mA
Spectrum Radiation Bandwidth	Δ λ	-----	17	-----	nm	If=20mA
Forward Voltage	Vf	-----	2.0	2.4	V	If=20mA
Reverse Current	Ir	-----	-----	10	μ A	Vr=5V

■ **Reliability Test Item And Condition**

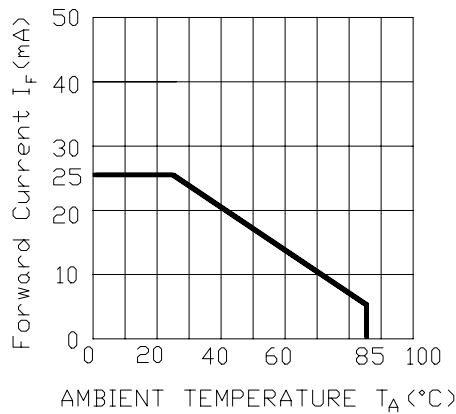
NO	Item	Test Conditions	Test Hours/Cycle	Sample Size	Ac/Re
1	Solder Heat	TEMP : 260°C ± 5 °C	5 SEC	76 Pcs	0/1
2	Temperature Cycle	H : +85°C 30min ∫ 5 min L : -55°C 30min	50 CYCLE	76 Pcs	0/1
3	Thermal Shock	H : +100°C 5min ∫ 10 sec L : -10°C 5min	50 CYCLE	76 Pcs	0/1
4	High Temperature Storage	TEMP : 100°C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

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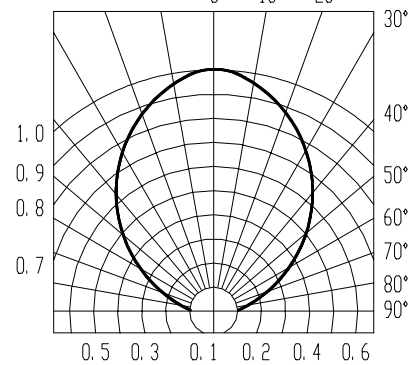
Typical Electro-Optical Characteristic Curves

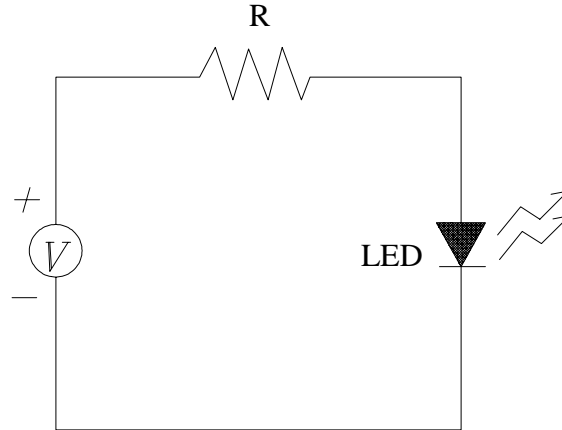


Forward Current Derating Curve



Radiation Diagram $T_a=25^\circ$



■ 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%.

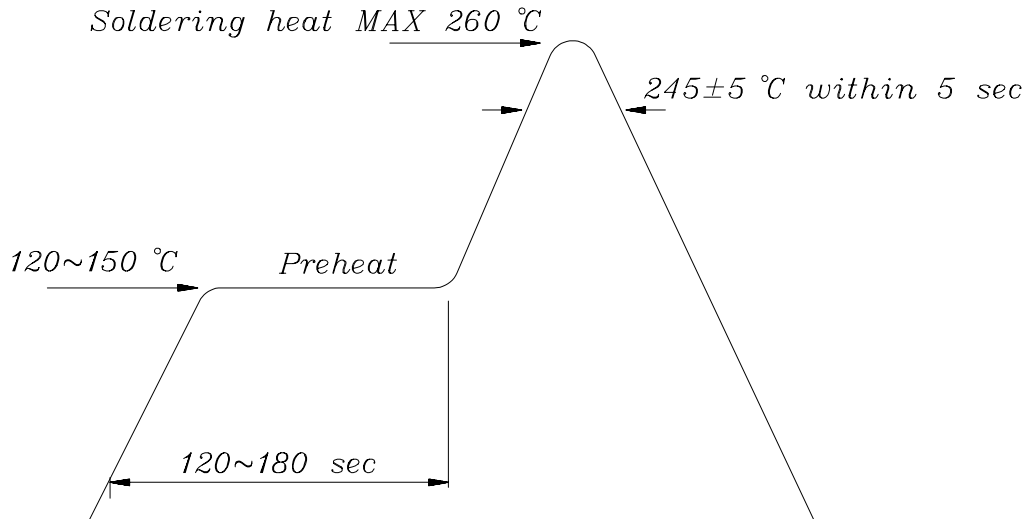
2.2 Once the package is opened , the products should be used within a week.
Otherwise , they should be keep in a dampproof box with desiccants.
Considering the tape life , we suggest our customers to use our products within a year(from production date).

2.3 If opened more than one week in an atmosphere $5^{\circ}\text{C} \sim 35^{\circ}\text{C}$, 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.

■ **Soldering heat reliability (DIP)**

Please refer to the following figure :

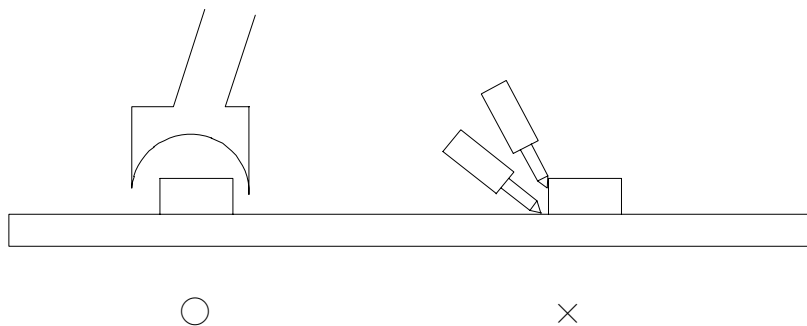


■ **Soldering Iron**

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.



■ Reflow Temp / Time :