



MODEL NO: 12-21UYC/S530-A3/TR8

Device Number : DSE-121-033 REV. 1.0

Chip LEDs with Right Angle Lens

ECN : _____ Page: 1/8

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.

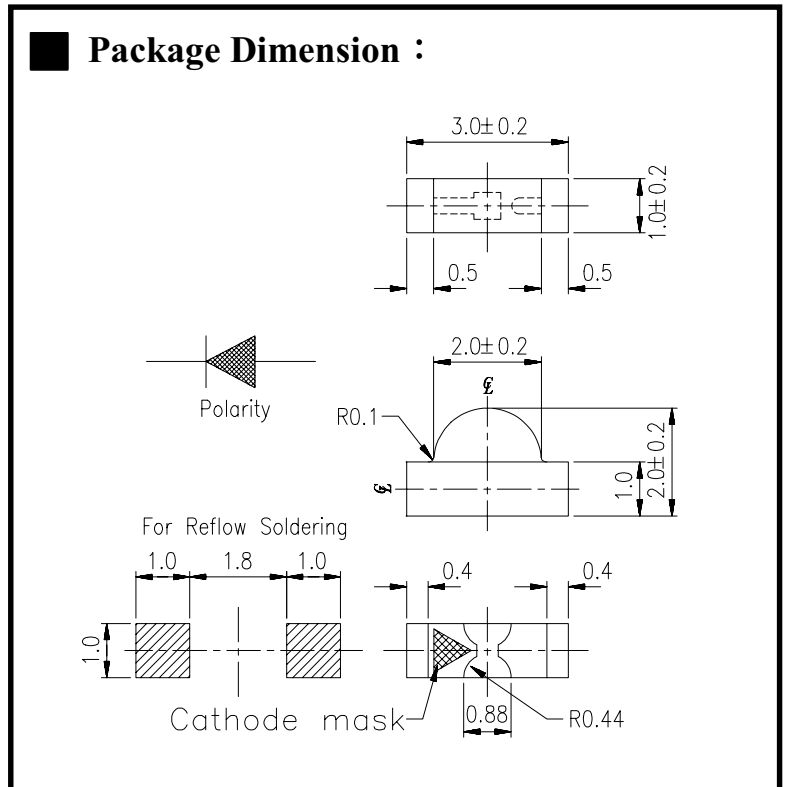
Description :

- The 12-21 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, light Weight 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 Dimension :



Notes :

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

PART NO	CHIP		Lens Color
	Material	Emitted Color	
12-21 UYC/S530-A2/TR8	AlGaInP	Super Yellow	Water Clear

Office: NO. 25, Lane 76, Sec.3, Chung Yang Rd., Tucheng 236, Taipei, Taiwan, R.O.C.
 TEL: 886-2-2267-2000, 2267-9936
 FAX: 886-2-2267-6244, 2267-6189, 2267-6306
<http://www.everlight.com>



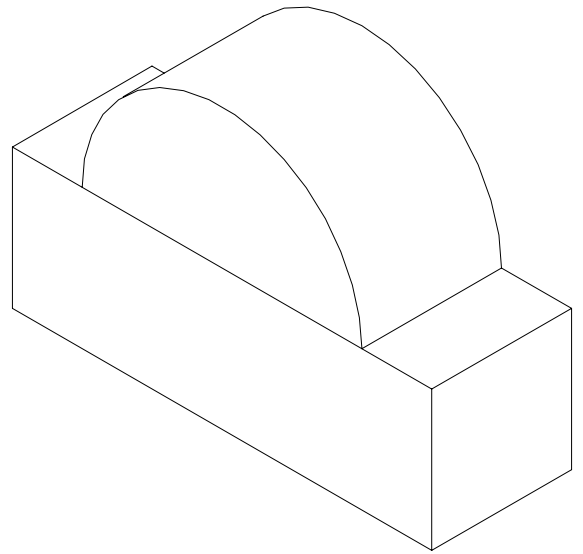
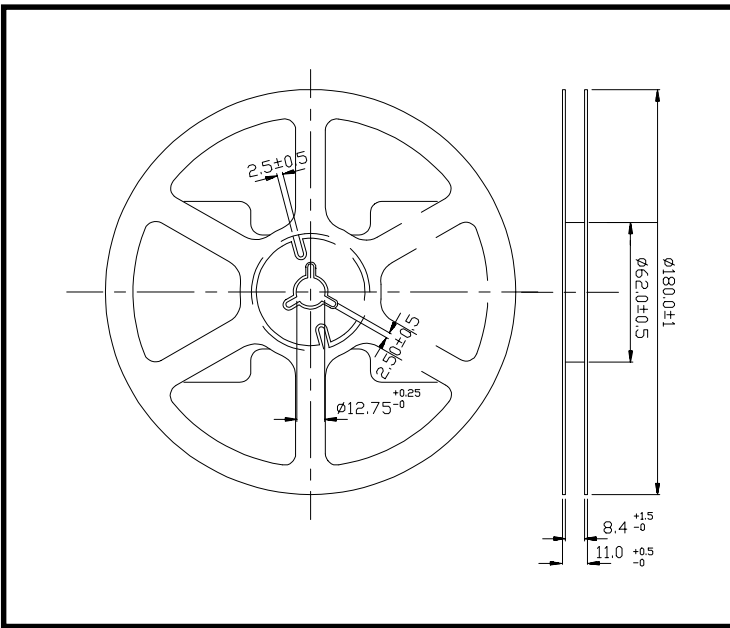
MODEL NO: 12-21UYC/S530-A3/TR8

Device Number : DSE-121-033 REV. 1.0

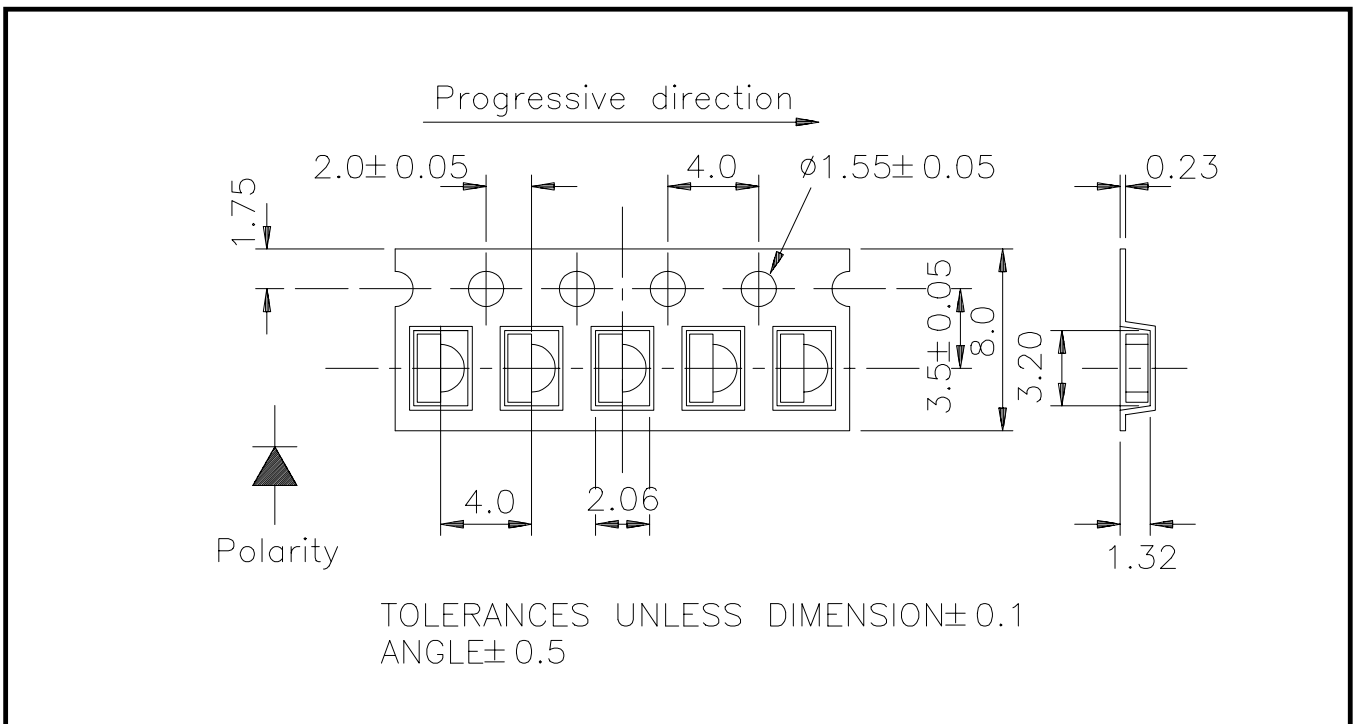
Chip LEDs with Right Angle Lens

ECN : _____ Page: 2/8

■ Package Dimension :



■ Loaded quantity per reel 2000 pcs/reel :





MODEL NO: 12-21UYC/S530-A3/TR8

Device Number : DSE-121-033 REV. 1.0

Chip LEDs with Right Angle Lens

ECN : _____ Page: 3/8

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

Parameter	Symbol	Rating	Unit
Reverse Voltage	Vr	4	V
Forward Current	If	25	mA
Operating Temperature	Topr	-40 ~ +85	°C
Storage Temperature	Tstg	-40 ~ +90	°C
Soldering Temperature	Tsol	260 (for 5 second)	°C
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	45	71	-----	mcd	If=20mA
Viewing Angle	2θ 1/2	-----	120	-----	deg	If=20mA
Peak Wavelength	λ p	-----	591	-----	nm	If=20mA
Dominant Wavelength	λ d	-----	589	-----	nm	If=20mA
Spectrum Radiation Bandwidth	Δ λ	-----	15	-----	nm	If=20mA
Forward Voltage	Vf	-----	2.0	2.4	V	If=20mA
Reverse Current	Ir	-----	-----	100	μ A	Vr=4V



MODEL NO: 12-21UYC/S530-A3/TR8

Device Number : DSE-121-033 REV. 1.0

Chip LEDs with Right Angle Lens

ECN : Page: 4/8

■ Specifications For Bin Grading

Bin Grading	Min.	Typ.	Max.	Unit
P	40.0	-----	80.0	mcd
Q	63.0	-----	125.0	mcd

■ 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	High Temperature Storage	TEMP : -55°C	1000 HRS	76 Pcs	0/1
6	DC Operating Life	If = 20 mA	1000 HRS	76 Pcs	0/1
7	High Temperature / High Humidity	85°C/85% RH	1000 HRS	76 Pcs	0/1



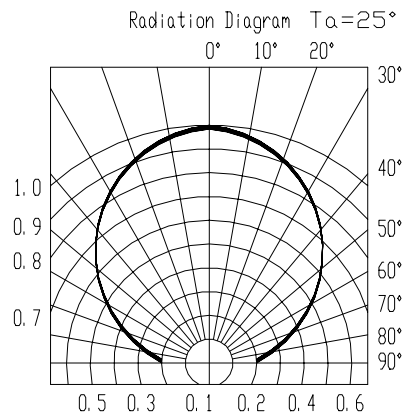
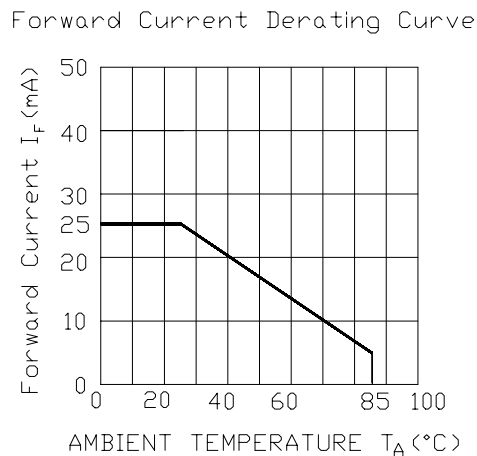
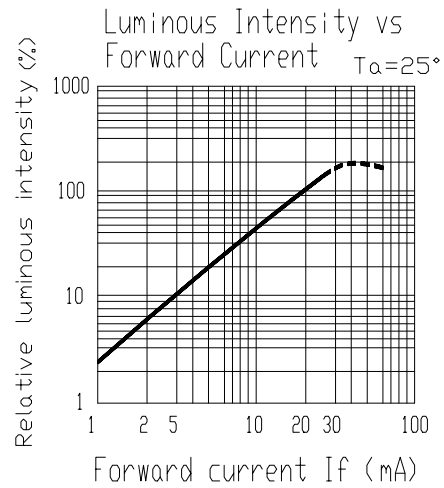
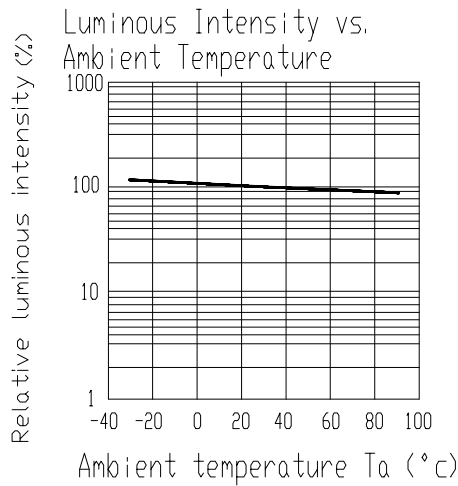
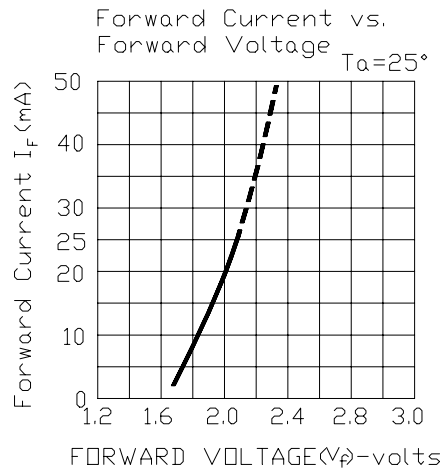
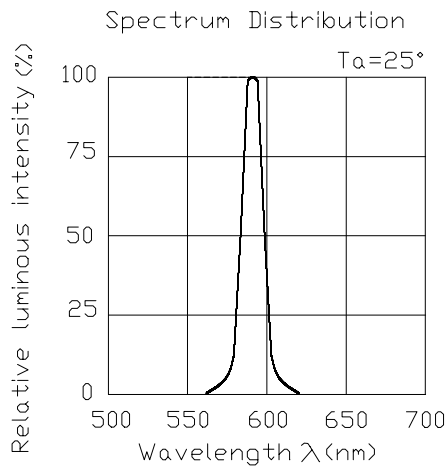
MODEL NO: 12-21UYC/S530-A3/TR8

Device Number : DSE-121-033 REV. 1.0

Chip LEDs with Right Angle Lens

ECN : Page: 5/8

Typical Electro-Optical Characteristic Curves





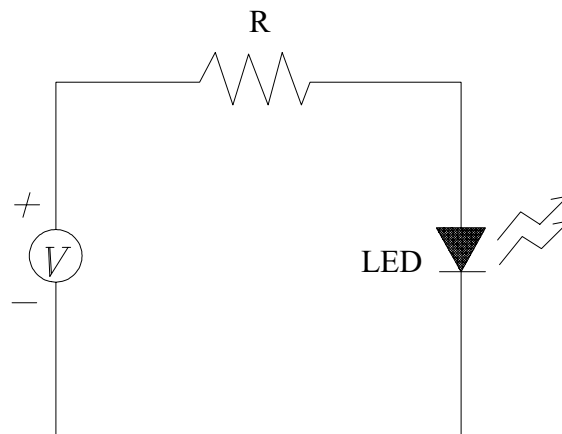
MODEL NO: 12-21UYC/S530-A3/TR8

Device Number : DSE-121-033 REV. 1.0

Chip LEDs with Right Angle Lens

ECN : Page: 6/8

■ 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.

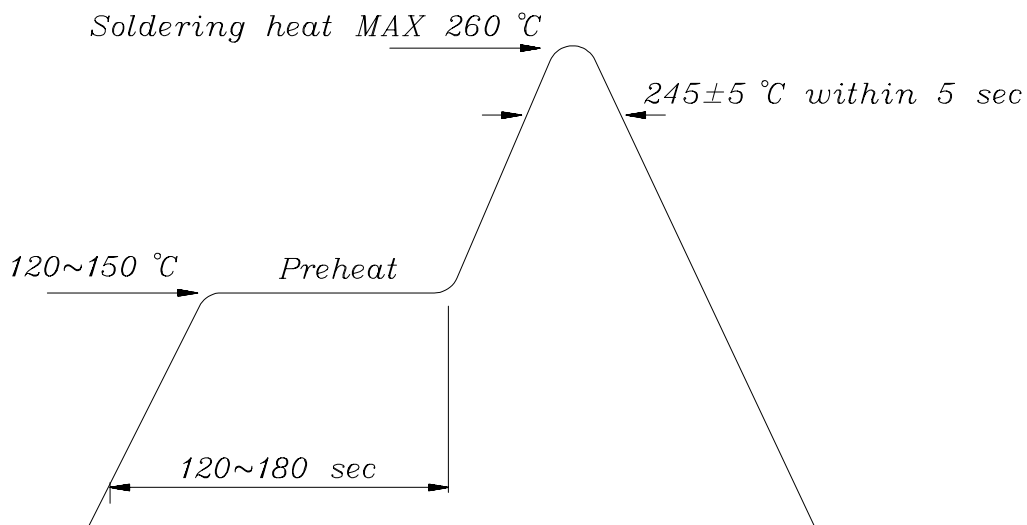
Considering the tape life , we suggest our customers to use our products within a year(from production date).

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 :

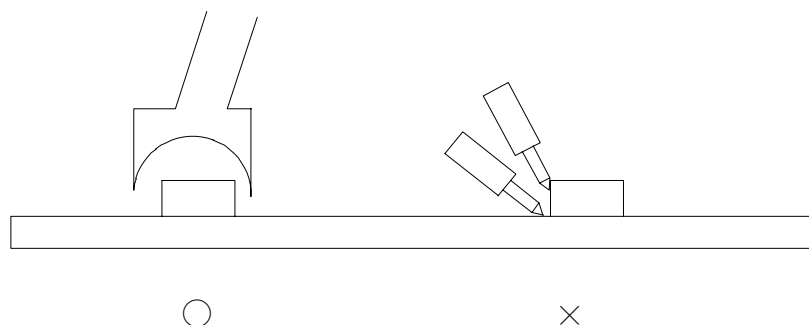


■ **Soldering Iron**

Basic spec is ≤ 5 sec when 260°C . If temperature is higher, time should be shorter ($+10^{\circ}\text{C} \rightarrow -1\text{sec}$). 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.





MODEL NO: 12-21UYC/S530-A3/TR8

Device Number : DSE-121-033 REV. 1.0

Chip LEDs with Right Angle Lens

ECN : Page: 8/8

■ Reflow Temp / Time :

