

MODEL NO: 11-21UYOC/S400-A7/TR8Device Number : DSE-111-054 REV. 1.0***1206 Package Chip LEDs with Inner Lens***ECN : _____ Page: 1/8**■ Features :**

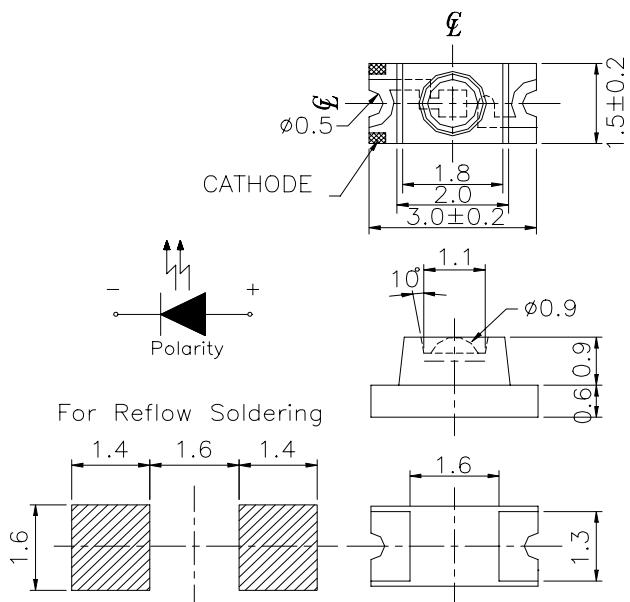
- Package in 8mm tape on 7" diameter reel.
- Compatible with automatic placement equipment.
- Compatible with infrared and vapor phase reflow solder process.
- Mono-color type.

■ Descriptions :

- The 11-21 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.

■ Package Dimensions :**■ Notes :**Tolerances Unless Dimension \pm 0.1mmAngle \pm 0.5°

Unit = mm

PART NO	Chip		Lens Color
	Material	Emitted Color	
11-21UYOC/S400-A7/TR8	AlGaInP	Super Yellow Orange	Water Clear

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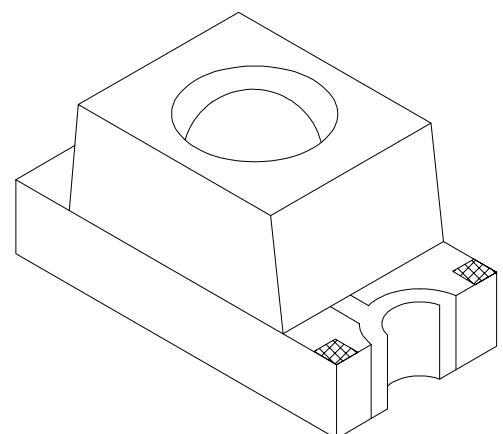
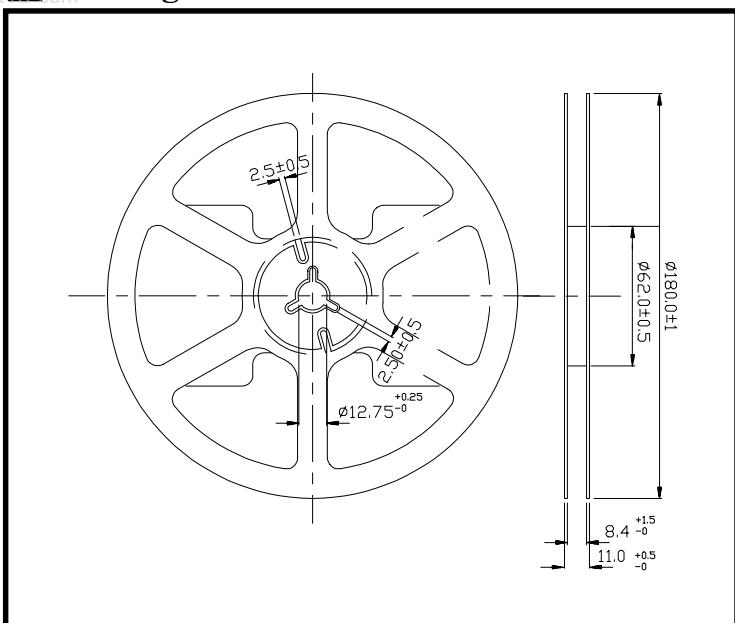
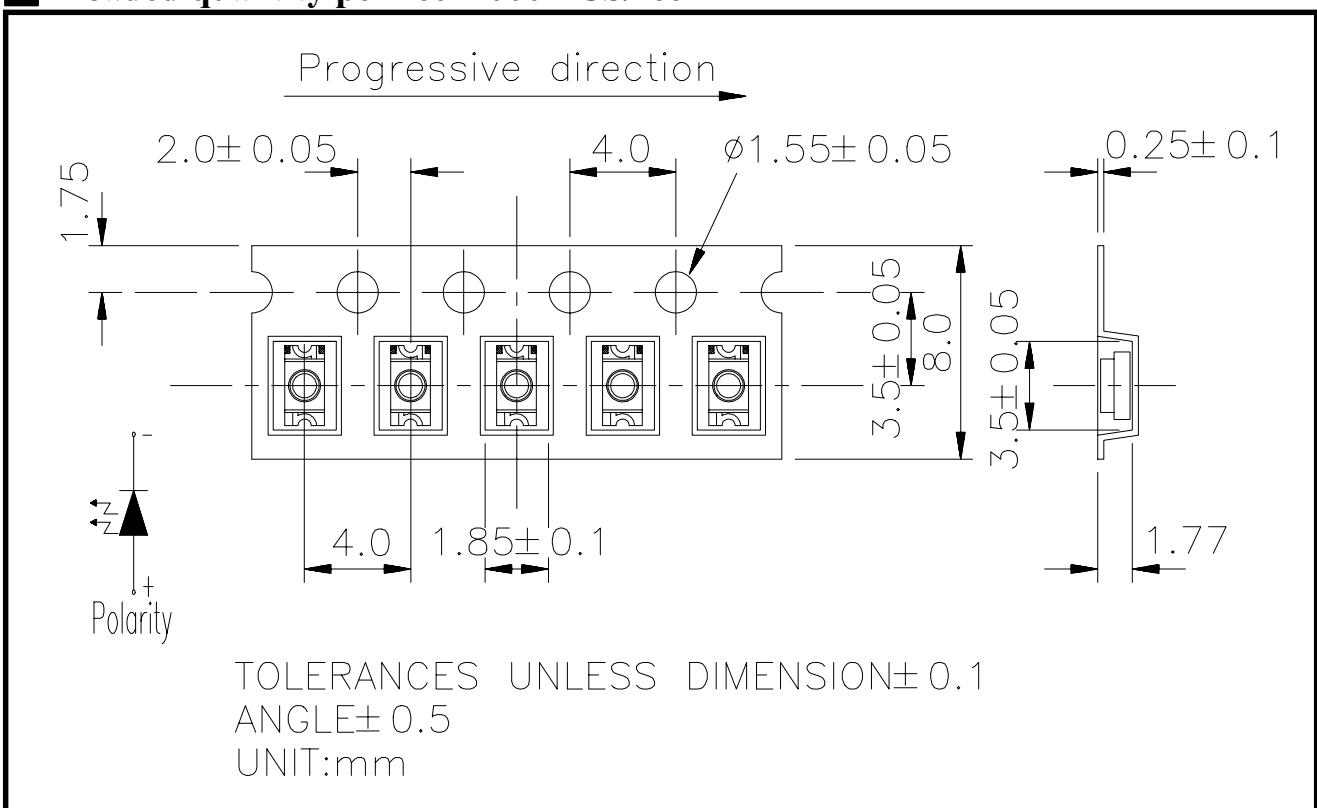
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<http://www.everlight.com>

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Page: 2/8**■ Package Dimensions :****■ Loaded quantity per reel 2000 PCS/reel :**

TOLERANCES UNLESS DIMENSION ± 0.1
ANGLE ± 0.5
UNIT:mm



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Absolute Maximum Ratings at $T_a = 25^\circ\text{C}$

Parameter	Symbol	Rating	Unit
Reverse Voltage	V_R	5	V
Forward Current	I_F	50	mA
Operating Temperature	T_{opr}	-40 ~ +85	$^\circ\text{C}$
Storage Temperature	T_{stg}	-40 ~ +90	$^\circ\text{C}$
Soldering Temperature	T_{sol}	260 (for 5 second)	$^\circ\text{C}$
Electrostatic Discharge	ESD	2000	V
Power Dissipation	P_d	120	mW
Peak Forward Current(Duty 1/10 @ 1KHZ)	$I_F(\text{Peak})$	200	mA

Electronic Optical Characteristics :

Parameter	Symb	Min.	Typ.	Max.	Unit	Condition
Luminous Intensity	I_v	----	16	----	mcd	$I_F=2\text{mA}$
		175	285	----	mcd	$I_F=20\text{mA}$
Viewing Angle	2θ	----	20	----	deg	$I_F=20\text{mA}$
Peak Wavelength	λ_p	----	611	----	nm	$I_F=20\text{mA}$
Dominant Wavelength	λ_d	----	605	----	nm	$I_F=20\text{mA}$
Spectrum Radiation Bandwidth	$\Delta\lambda$	----	17	----	nm	$I_F=20\text{mA}$
Forward Voltage	V_F	----	2.0	2.4	V	$I_F=20\text{mA}$
Reverse Current	I_R	----	----	10	μA	$V_R=5\text{V}$

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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	I _F = 20 mA	1000 HRS	76 PCS	0/1
7	High Temperature / High Humidity	85°C/85% RH	1000 HRS	76 PCS	0/1

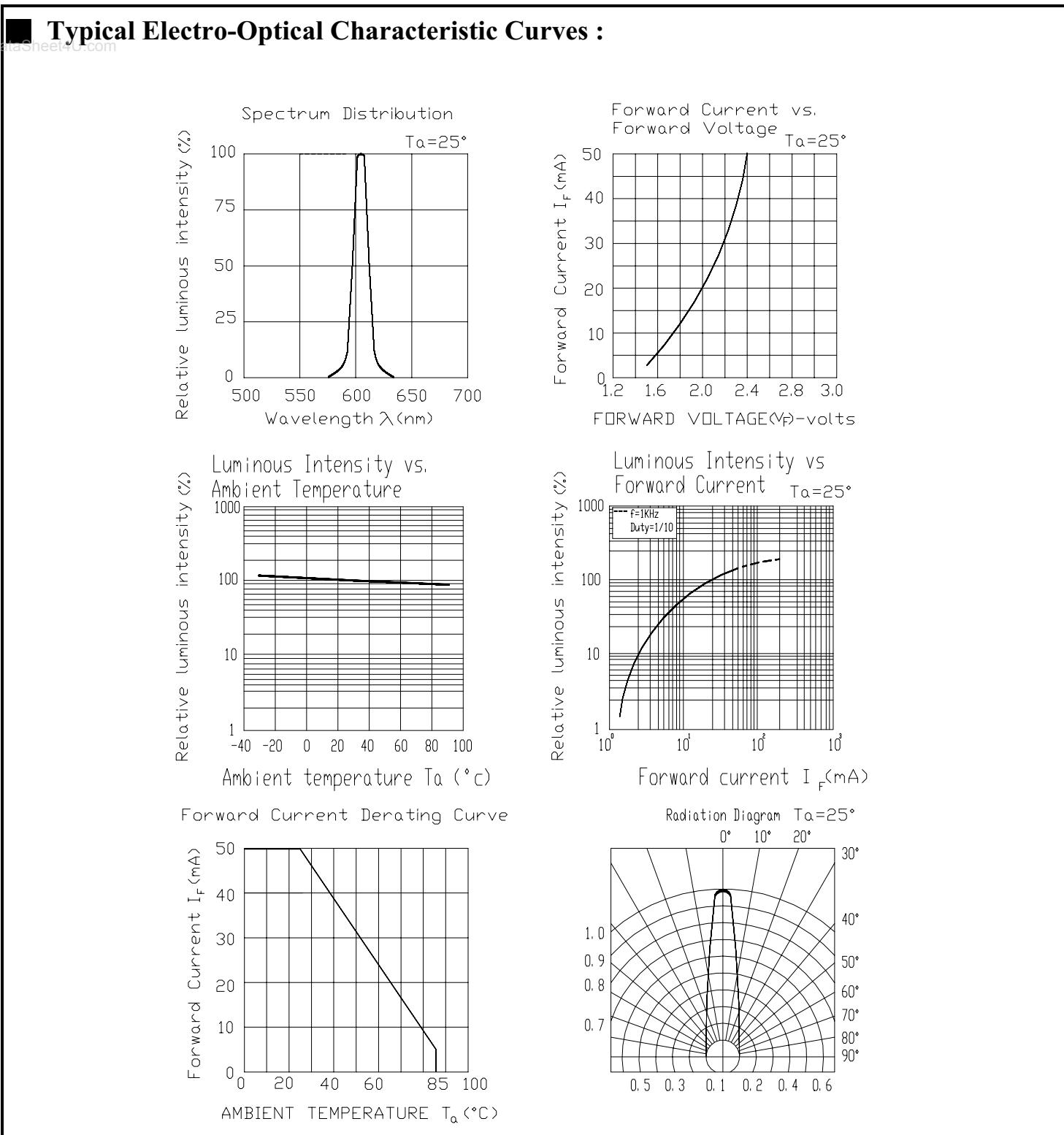
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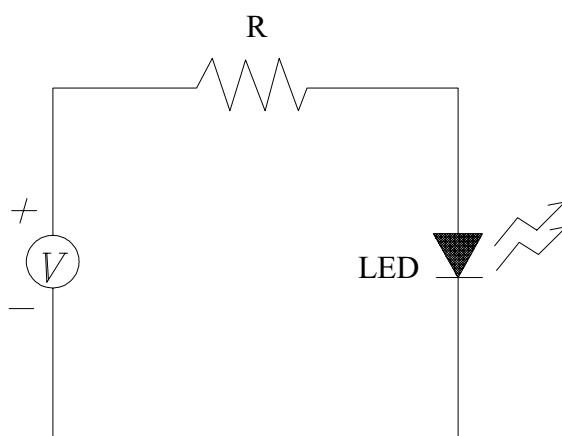
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Page: 6/8**■ Test Circuit :****■ Precautions For Use :****1. Over-current-proof**

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

2. Storage time

2.1 The operation 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 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 $5^{\circ}\text{C} \sim 35^{\circ}\text{C}$, R.H.60%, they should be treated at $60^{\circ}\text{C} \pm 5^{\circ}\text{C}$ for 15hrs.

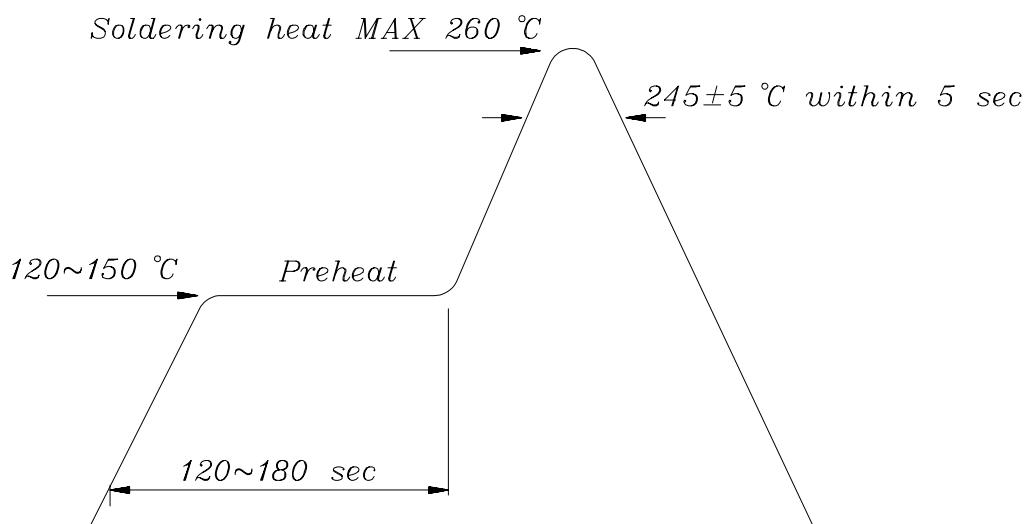
2.4 When you discover that the desiccant in the package turns into pink. (normal = blue) , you should treat them in the same conditions as 2.3.

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Page: 7/8**■ Soldering heat reliability (DIP) :**

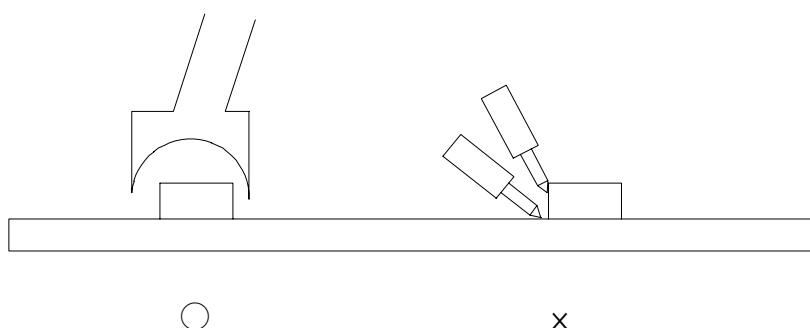
Please refer to the following figure :

**■ Soldering Iron :**

Basic spec is $\leq 5\text{ sec}$ when $260\text{ }^{\circ}\text{C}$. If temperature is higher, time should be shorter ($+10\text{ }^{\circ}\text{C} \rightarrow -1\text{ sec}$). Power dissipation of iron should be smaller than 15 W , and temperature should be controllable. Surface temperature of the device should be under $230\text{ }^{\circ}\text{C}$.

■ Rework :

1. Customer must finish rework within 5 sec under $260\text{ }^{\circ}\text{C}$.
2. The head of iron can not touch copper foil.
3. Twin-head type is preferred.





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■ Reflow Temp / Time :

