

MODEL NO: 12-22 UYSYGC/S530-A2/TR8

Device Number : DSE-122-004 REV. 1.0

**Right Angle Lens Chip LEDs with Bi-Color(Multi-Color)**

ECN :

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**Features :**

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

**Descriptions:**

- The 12-22 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.

Tolerances Unless Dimension  $\pm$ 

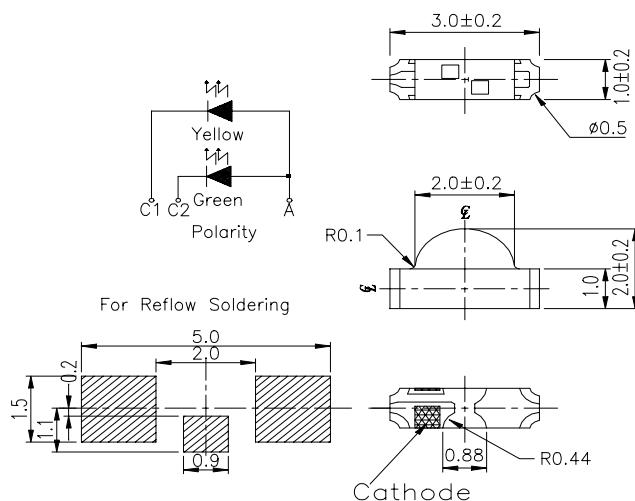
0.1mm

- Flat backlight for LCD, switch and symbol.

Angle  $\pm$  0.5

- General use.

Unit = mm

**Package Dimensions :****Notes :**

PART NO	Chip		Lens Color
	Material	Emitted Color	
12-22UYSYGC/S530-A2/TR8	UY:	AlGaInP	Super Yellow
	SYG:	AlGaInP	Super Yellow Green

Office: NO. 25, Lane 76, Sec.3, Chung Yang Rd., Tucheng 236, Taipei, Taiwan, R.O.C.

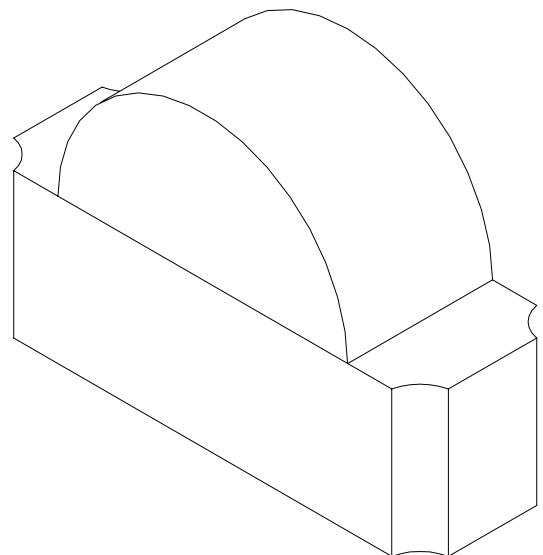
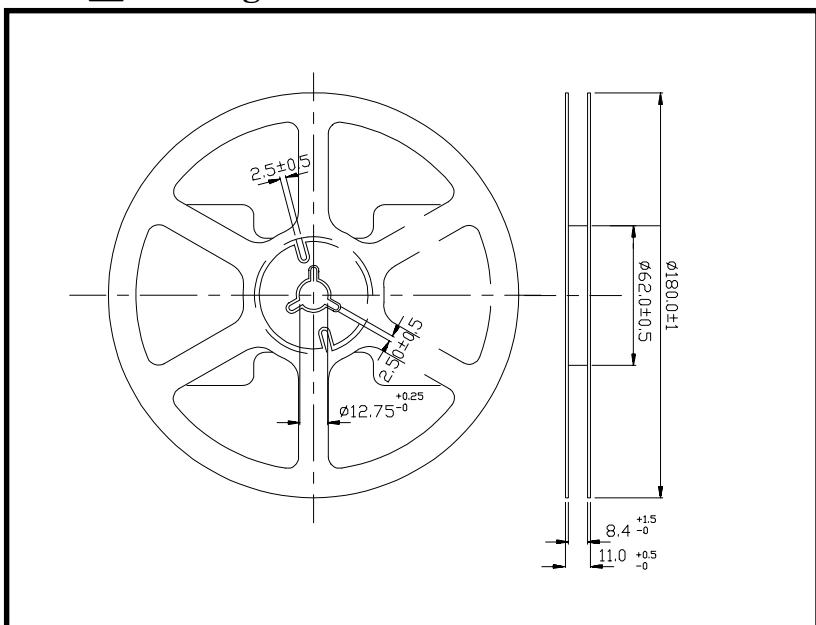
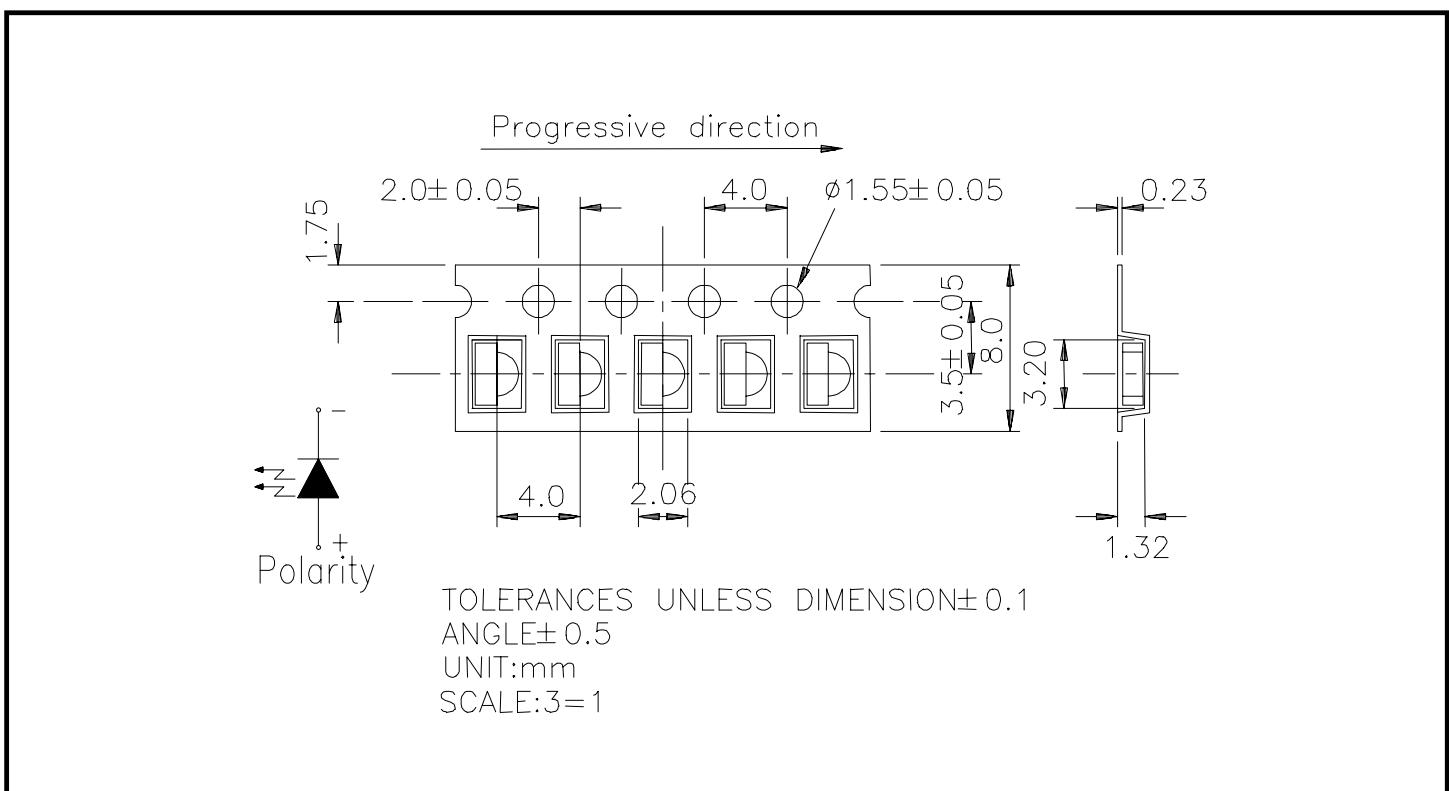
TEL: 886-2-2267-2000, 2267-9936

FAX: 886-2-2267-6244, 2267-6189, 2267-6306

<http://www.everlight.com>

MODEL NO: 12-22 UYSYGC/S530-A2/TR8Device Number : DSE-122-004 REV. 1.0**Right Angle Lens Chip LEDs with Bi-Color(Multi-Color)**

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Page: 2/9**■ Package Dimensions :****■ Loaded quantity per reel 2000 PCS/reel :**



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

Parameter	Symbol	Rating	Unit
Reverse Voltage	Vr	5	V
Forward Current	If	UY: 25 SYG: 25	mA
Operating Temperature	Topr	-40 ~ +85	°C
Storage Temperature	Tstg	-40 ~ +90	°C
Soldering Temperature	Tsol	260 (for 5 second)	°C
Electrostatic Discharge	ESD	2000	V
Power Dissipation	Pd	UY: 60 SYG: 60	mW
Peak Forward Current(Duty 1/10 @ 1KHZ)	If(Peak)	UY: 160 SYG: 160	mA

**■ Reliability Test Items And Conditions :**

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

MODEL NO: 12-22 UYSYGC/S530-A2/TR8 Device Number : DSE-122-004 REV. 1.0***Right Angle Lens Chip LEDs with Bi-Color(Multi-Color)***ECN : ----- Page: 4/9**■ Electronic Optical Characteristics :**

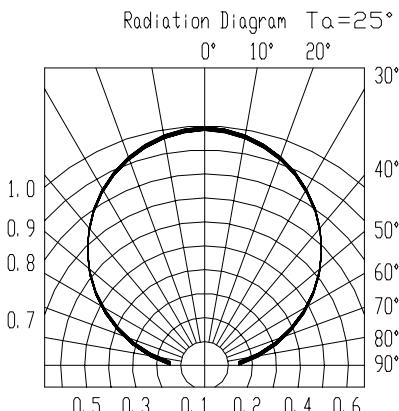
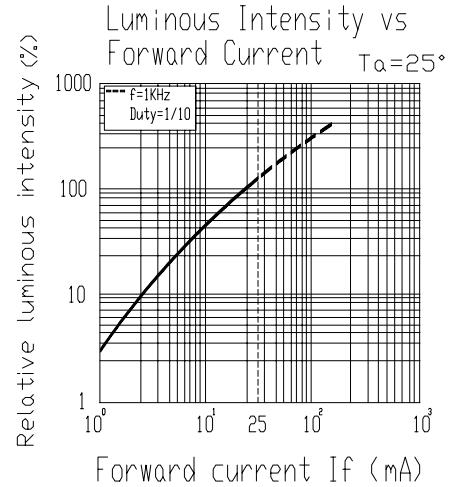
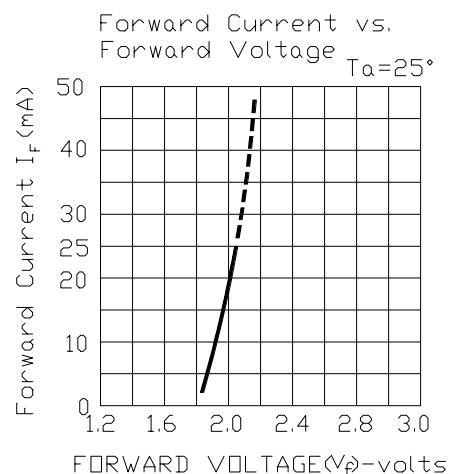
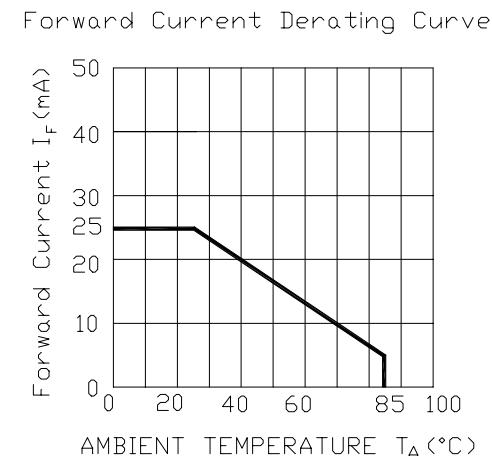
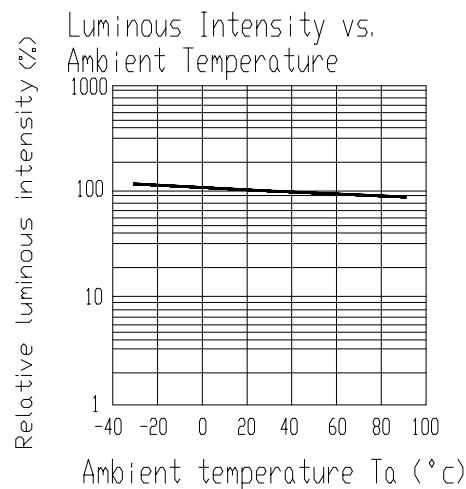
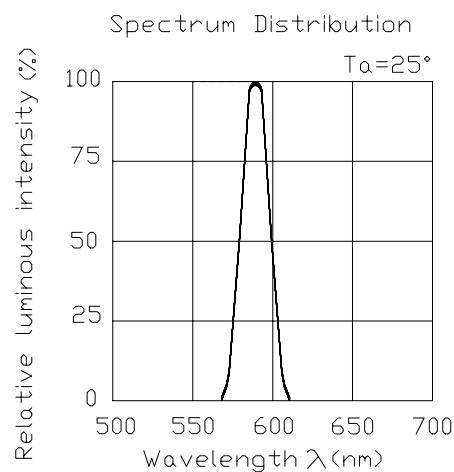
Parameter	Symbol	Min.	Typ.	Max.	Unit	Condition
Luminous Intensity	I <sub>v</sub> UY: SYG:	-----	3 1	-----	mcd	If=2mA
	UY: SYG:	18 13	38 19	-----	mcd	If=20mA
Viewing Angle	2θ 1/2	-----	120	-----	deg	If=20mA
Peak Wavelength	λ <sub>p</sub> UY: SYG:	-----	591 575	-----	nm	If=20mA
Dominant Wavelength	λ <sub>d</sub> UY: SYG:	-----	589 573	-----	nm	If=20mA
Spectrum Radiation Bandwidth	△λ UY: SYG:	-----	15 20	-----	nm	If=20mA
Forward Voltage	V <sub>f</sub> UY: SYG:	-----	2.0 2.0	2.4 2.4	V	If=20mA
Reverse Current	I <sub>r</sub>	-----	-----	10	μA	V <sub>r</sub> =5V

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ECN :

Page: 5/9**■ Typical Electro-Optical Characteristic Curves :**

UY



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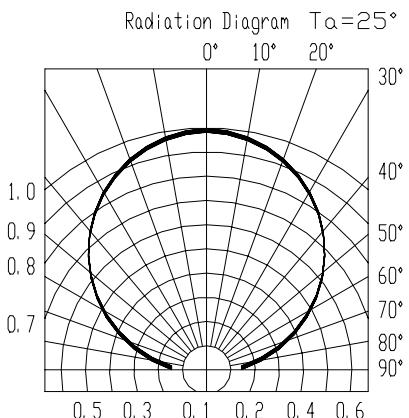
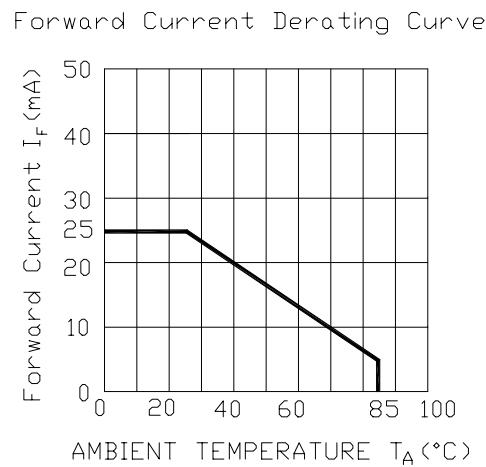
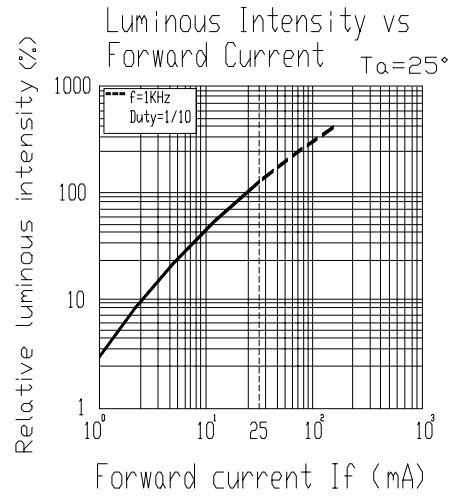
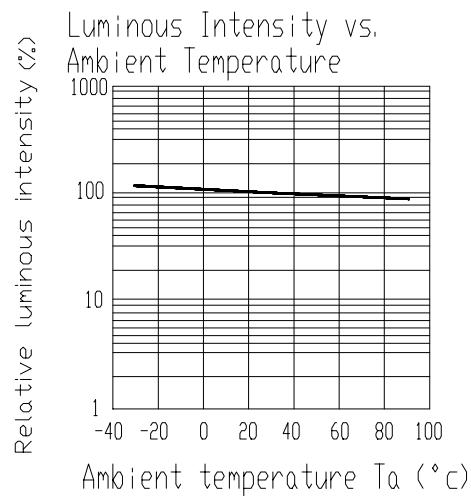
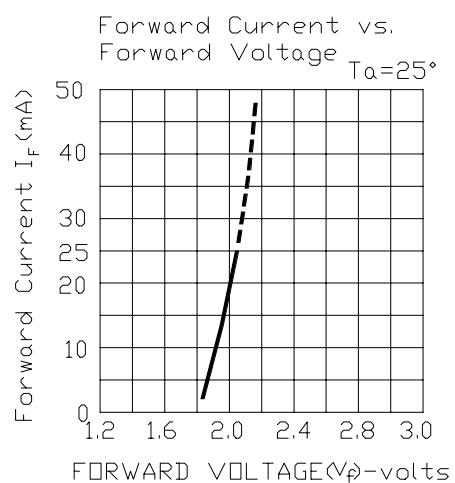
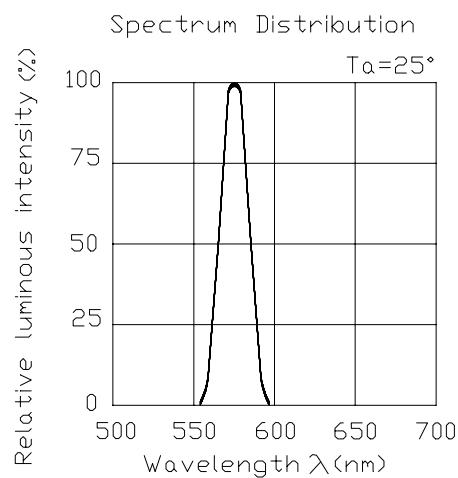
**Right Angle Lens Chip LEDs with Bi-Color(Multi-Color)**

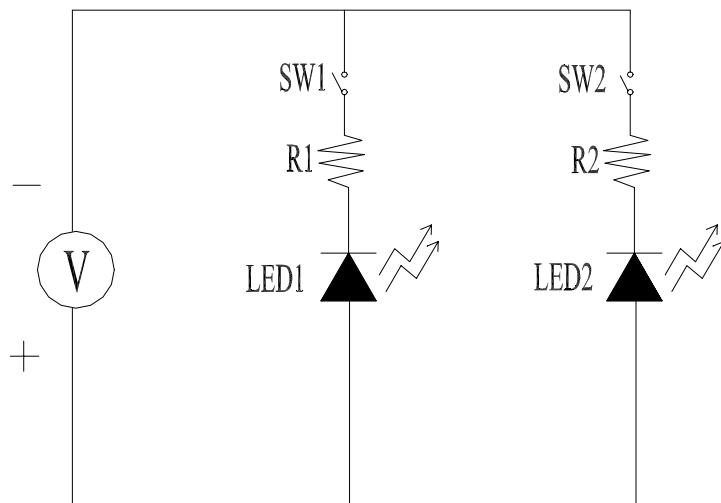
ECN :

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**■ Typical Electro-Optical Characteristic Curves :**

SYG



MODEL NO: 12-22 UYSYGC/S530-A2/TR8 Device Number : DSE-122-004 REV. 1.0***Right Angle Lens Chip LEDs with Bi-Color(Multi-Color)***ECN : ..... Page: 7/9**■ 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 keeping in a damp proof box with desiccant agent.

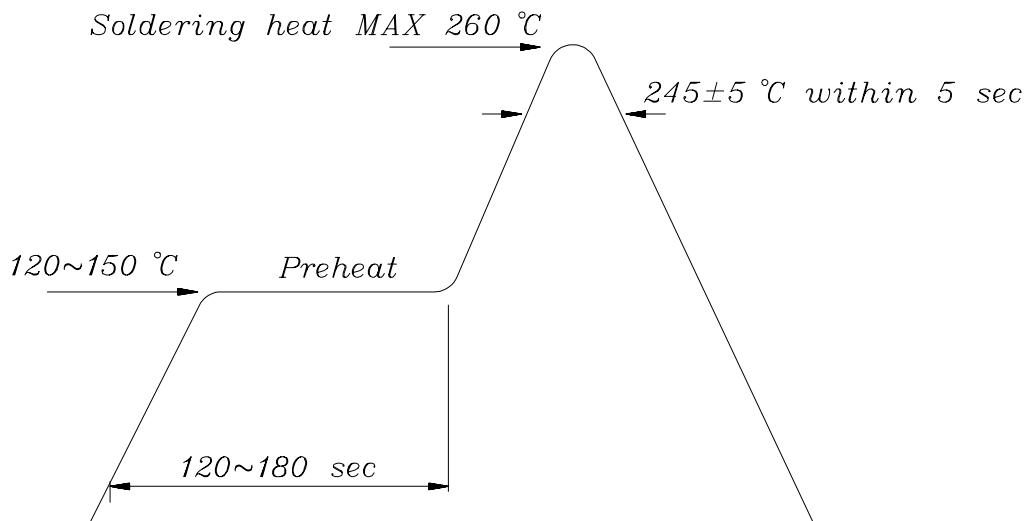
Considering the tape life , we suggest our customers to use our products within a year(from production date).

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 has a pink color (normal = blue) , you should treat them in the same conditions as 2.3.

MODEL NO: 12-22 UYSYGC/S530-A2/TR8 Device Number : DSE-122-004 REV. 1.0***Right Angle Lens Chip LEDs with Bi-Color(Multi-Color)***ECN : ----- Page: 8/9**■ Soldering heat reliability ( DIP ) :**

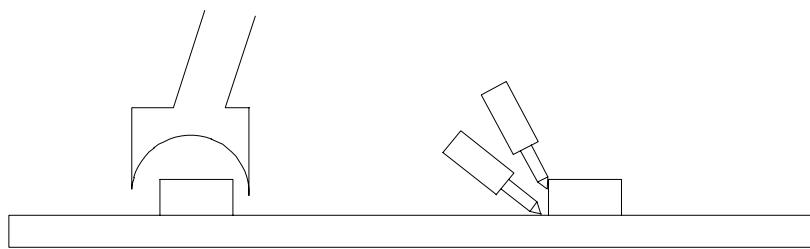
Please refer to the following figure :

**■ 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  $15\text{ W}$ , 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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