



# YETDA INDUSTRY LTD.

## Technical Data Sheet

**MODEL NO : 2121RGB2-LX**

**2121 Package 2.1\*2.1\*1.0mm TOP SMD**

**Features :**

- Package in 8mm tape on 7" diameter reel
- Compatible with automatic placement equipment
- Compatible with reflow solder process

**Applications :**

- Indoor and outdoor displays
- backlighting
- RGB Full color displays
- Coupling into light guides

Dice material	Emitted color	Lens Color
AlGaInP/ InGaN	RGB	Tinted Diffused

**Electro-Optical Characteristics (Ta = 25°C)**

Parameter		Test Condition	Symbol	Min.	Typ.	Max.	Unit
Forward Voltage	Red	IF = 10mA	VF	1.7		2.4	V
	Green	IF = 5mA		2.5		3.6	
	Blue	IF = 5mA		2.5		3.6	
Reverse Current		VR =9V	IR			1	uA
Viewing angle at 50%		IF = 10mA			110		Deg
Luminous Intensity	Red	IF = 10mA	Iv	60	69	78	mcd
	Green	IF = 5mA		148	170	192	
	Blue	IF = 5mA		33.5	38.5	43.5	
				Each Bin: IV(Max): IV(Min <=/=1..3			
Wavelength	Red	IF = 10mA	λd	618.5		622.5	nm
	Green	IF = 5mA		521		524	
	Blue	IF = 5mA		468		471	
				R: 4nm per Bin, G,B: 3nm per Bin			

**Absolute Maximum Ratings(Ta=25°C)**

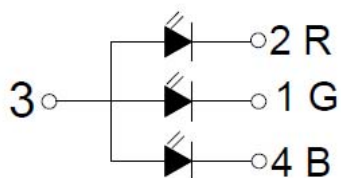
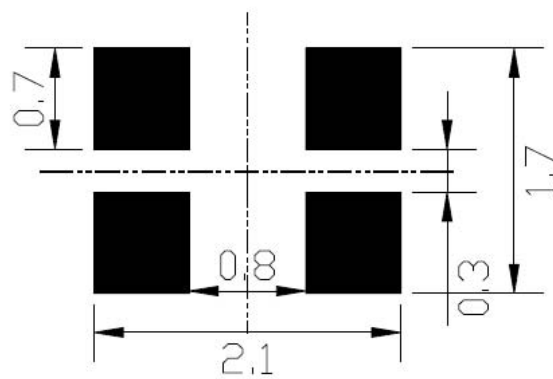
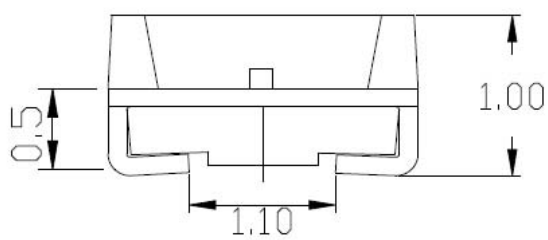
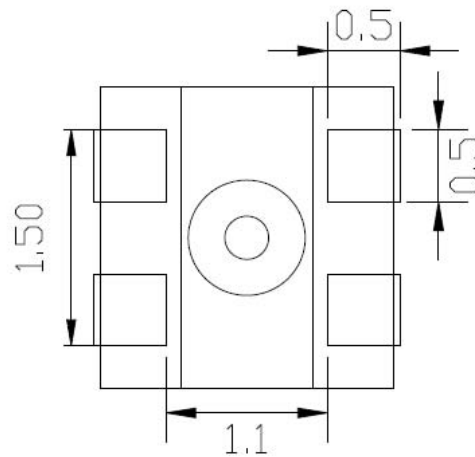
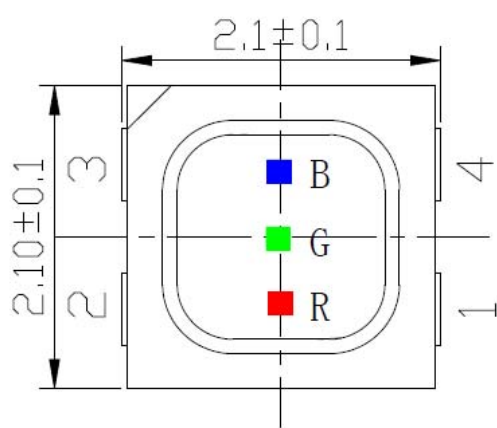
Parameter	Symbol	Value R/G/B	Unit
Power dissipation	Pd	72/68/68	mW
Forward current	IF	20	mA
Reverse voltage	VR	5	V
Operating temperature range	Top	-20 ~+70	°C
Storage temperature range	Tstg	-40 ~+100	°C
Peak pulsing current (1/8 duty f=1kHz)	IFP	100	mA



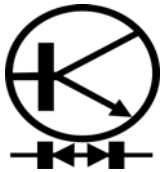
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## PACKAGING DIMENSIONS

(Units:mm)

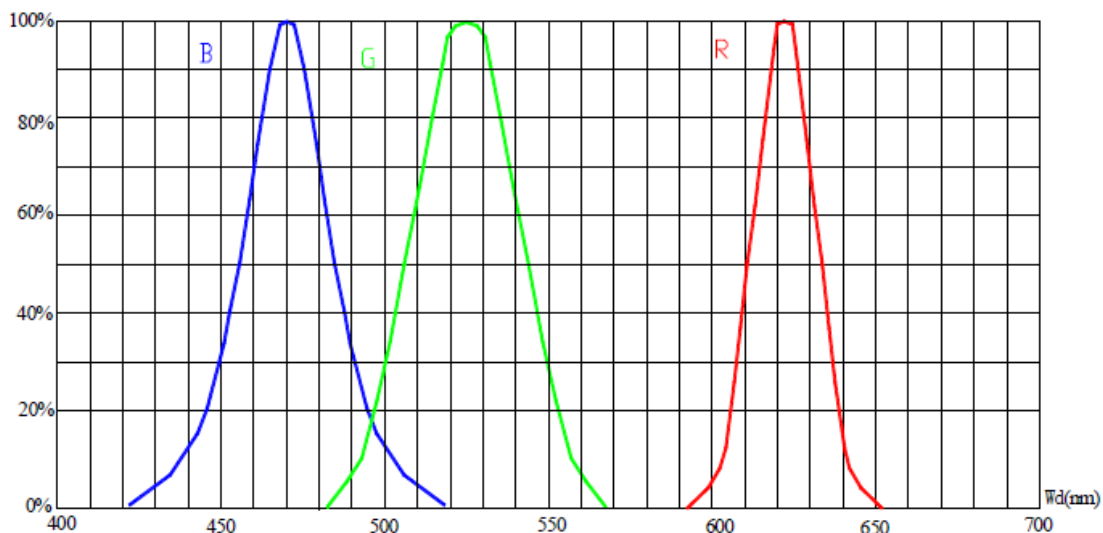


建议焊盘图  
Recom mend soldering pattern



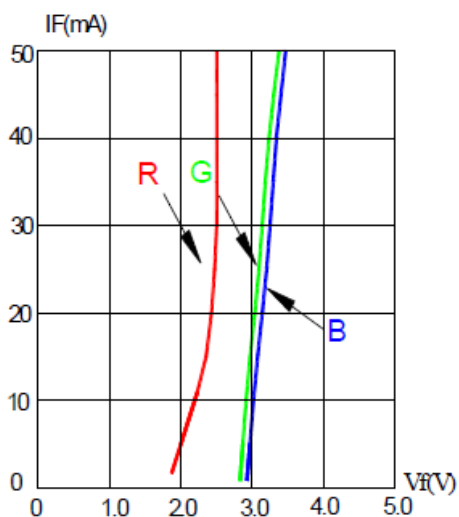
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**Typical Electro-Optical Characteristics Curve:**



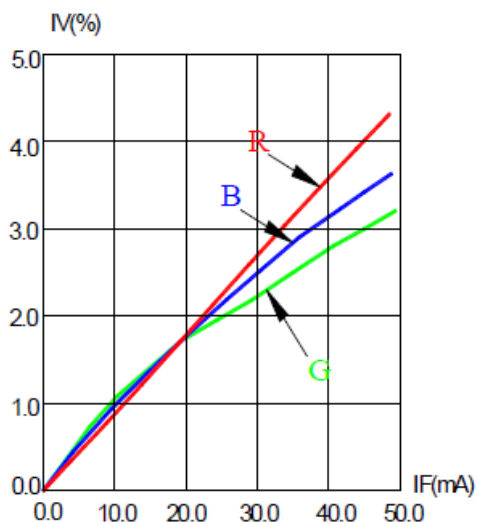
相对光强与波长关系图

Relative Intensity vs. Dominant Wavelength



正向电压与正向电流

Forward Voltage vs. Forward Current

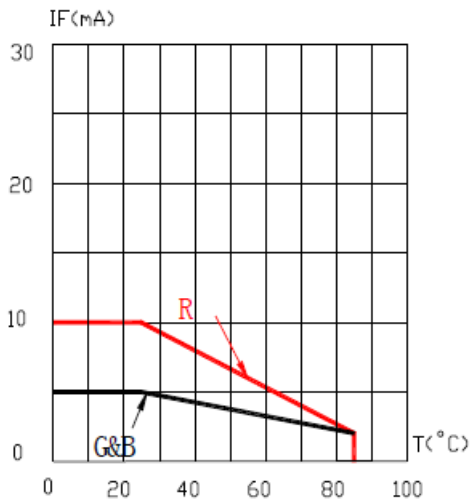


相对光强与正向电流图

Relative Intensity vs. Forward Current

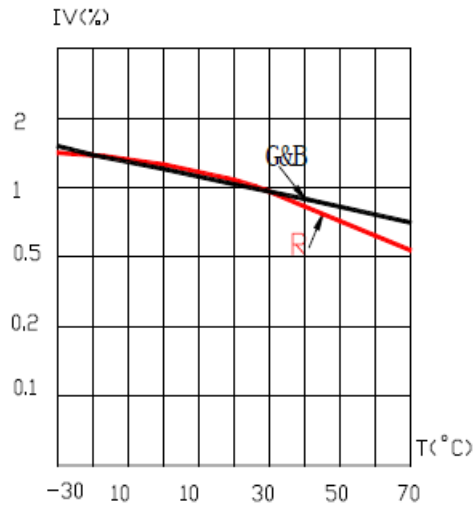


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正向电流与温度图

Forward Current vs. Temperature



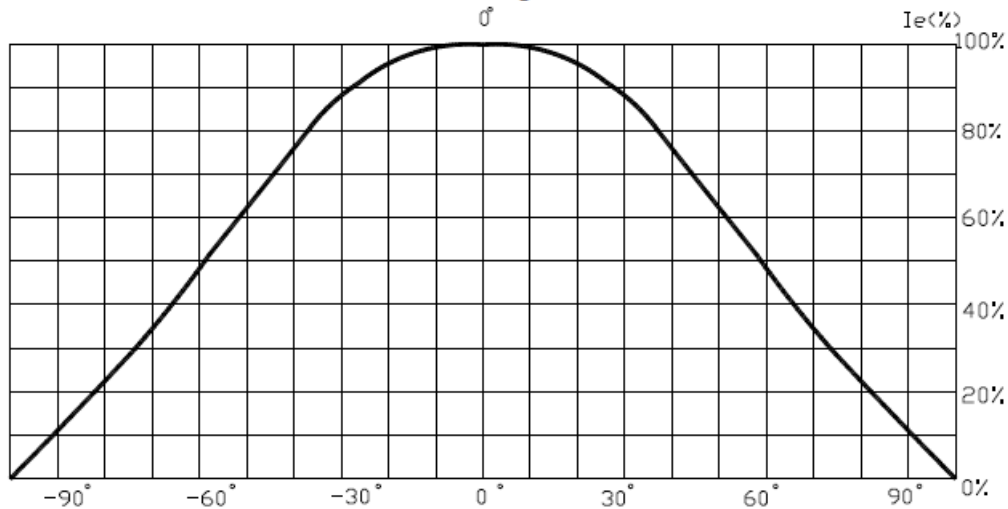
相对光强与温度图

Relative Intensity vs. Temperature

半光强度角:  $110^\circ$

50% Power Angle :  $110^\circ$

$\theta$



角度曲线图

FAR FIELD PATTERN

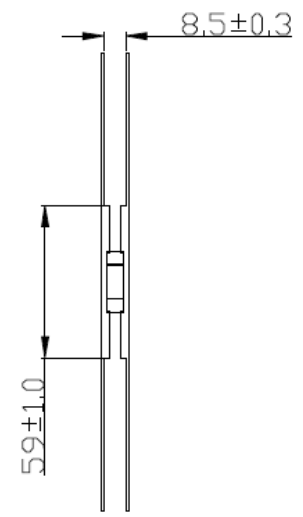
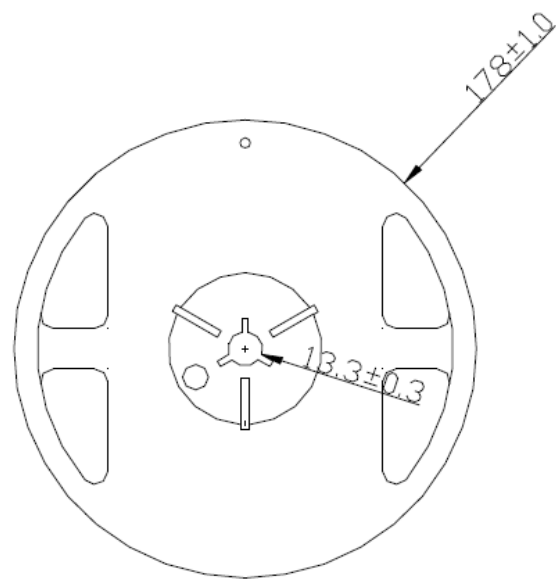
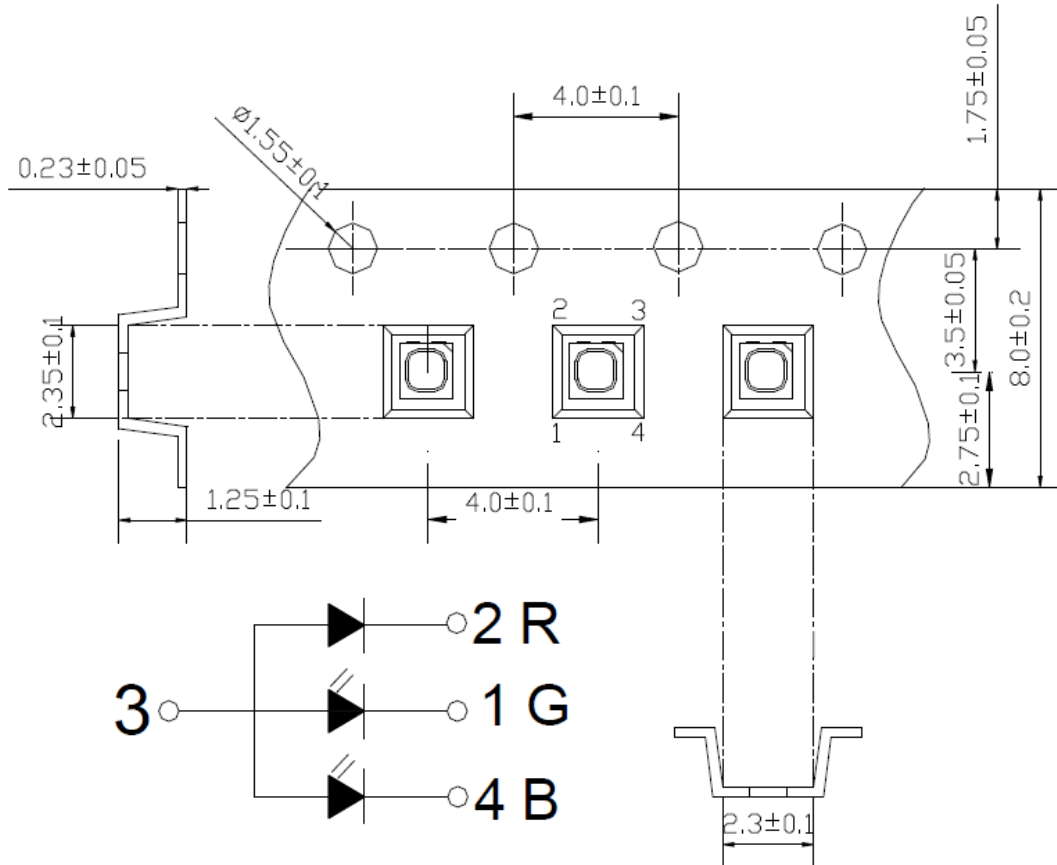


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载带、卷盘尺寸与卷包装数量:

Loading, reel size and number of packages

UNIT:MM





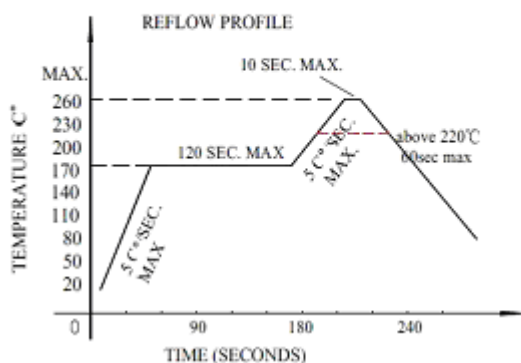
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<b>Precautions For Use :</b>
<b>Over - current - proof</b>
Customer must apply resistors for protection, otherwise slight voltage shift will cause big current change ( Burn out will happen )
<b>Storage</b>
1. The operation of temperature and R.H. are : $5^{\circ}\text{C} \sim 30^{\circ}\text{C}$ , 60%R.H. Max.
2. Once the package is opened, the products should be used within a week. Otherwise, they should be kept in a dampproof box with desiccating reagent. Considering the tape life, we suggest our customers to use our products within 1.5 year ( from production date ) .
3. It's recommended to bake before soldering when the package is unsealed after 72 hrs. The condition is : $60^{\circ}\text{C} \pm 5^{\circ}\text{C}$ for 15hrs.

## ■ Reflow Temp/Time

### ■ Temperature-profile (Surface of circuit board)

Use the following conditions shown in the figure.



### NOTES:

1. We recommend the reflow temperature  $245^{\circ}\text{C} (\pm 5^{\circ}\text{C})$ . the maximum soldering temperature should be limited to  $260^{\circ}\text{C}$ .
2. dont cause stress to the epoxy resin while it is exposed to high temperature.
3. Number of reflow process shall be 2 times or less.

### ■ Soldering iron

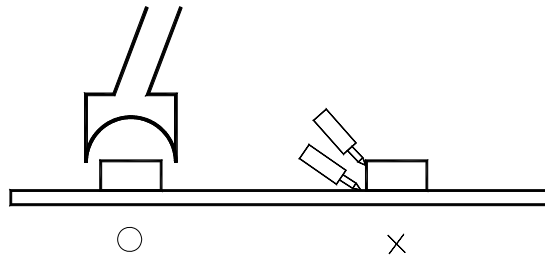
Basic spec is  $\leq 5\text{sec}$  when  $260^{\circ}\text{C}$ . If temperature is higher, time should be shorter ( $+10^{\circ}\text{C} \rightarrow -1\text{sec}$ ). Power dissipation of iron should be smaller than 20W, and temperatures should be controllable. Surface temperature of the device should be under  $230^{\circ}\text{C}$ .



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## ■ Rework

1. Customer must finish rework within 5 sec under 260°C.
2. The head of iron can not touch copper foil
3. Twin-head type is preferred.



- Avoid rubbing or scraping the resin by any object, during high temperature, for example reflow 、 solder etc.