



Y. LIN ELECTRONICS CO., LTD.

Data Sheet

Customer: _____
Part No: _____ YLS150/RGB/21/15-E/L-C _____
Sample No: _____
Description: _____ 1206 Red/Green/Blue SMD _____
Item No: _____

Customer			
Check	Inspection	Approval	Date

Y.LIN			
Drawn	Check	Approval	Date
			2017/9/12

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Features:

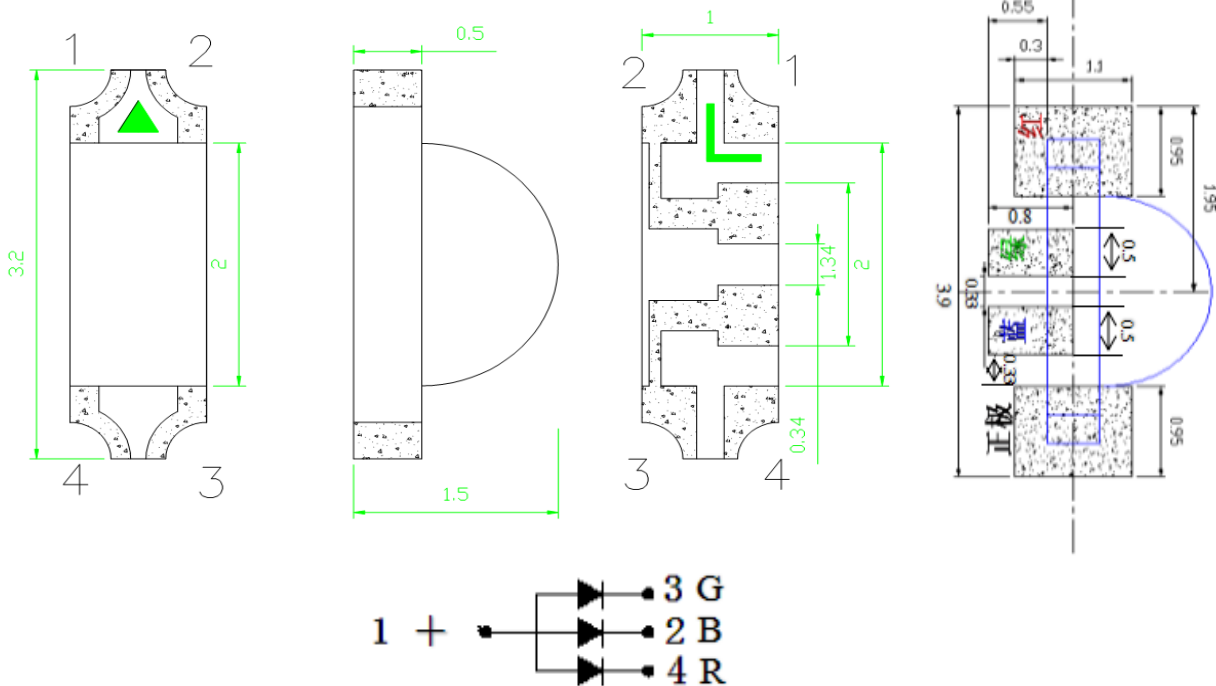
- . Wide Viewing Angle 120°
- . Reflow Solderable
- . High Luminous Intensity and Low Power Dissipation
- . Good Reliability and Long Life
- . Complied With RoHS Directive

Technical Data Sheet

This product is generally used as indicator and luminary for electronic equipment such as household appliance, communication equipment, and dashboard.

Applications

- Optical indicator
- Indoor display
- Backlighting in dashboard and switch
- Flat backlighting for LCD, symbol and display
- General use



Notes:

1. All dimension units are millimeters.
2. All dimension tolerance is $\pm 0.2\text{mm}$ unless otherwise noted.



Selection Guide

Part No.	Dice	Lens Type	Luminous intensity(mcd) @ 20mA			Viewing Angle
			Min	Typ	Max	2θ1/2
YLS150/RGB/21/15-E/L-C	(R)AlGaInP	White Diffused	70	--	200	120
	(G)InGaN		200	--	800	
	(B)InGaN		70	--	200	

Note:

- 1.2θ1/2 is the angle from optical centerline where the luminous intensity is 2θ1/2 the optical centerline value.
- 2.The above luminous intensity measurement allowance tolerance ±10%

Electrical / Optical Characteristics at Ta=25 °C

Parameter	Symbol	Min.	Typ.	Max.	Units	test conditions
Forward Voltage	R	1.8	--	2.6	V	IF=20mA
	G	2.8	--	3.6		
	B	2.8	--	3.6		
Reverse Current	IR	--	--	10	uA	VR = 5V
Dominate Wavelength	R	615	--	630	nm	IF=20mA
	G	515	--	530		
	B	460	--	475		

Absolute Maximum Ratings at Ta=25 °C

Parameter	Symbol	Rating	Units
Power Dissipation	R	60	mW
	G	90	
	B	90	
DC Forward Current	IF	20	mA
Peak Forward Current [1]	IFP	40	mA
Reverse Voltage	VR	5	V
Electrostatic Discharge (HBM)	ESD	2000	V
Operating Temperature	Topr	-40~+85	℃
Storage Temperature	Tstg	-40~+100	℃

Note:

1. 1/10 Dut cycle,0.1ms pulse width.
2. The above forward voltage measurement allowance tolerance ±0.1V.
3. The tolerance of wave length: ±1nm.



BIN CODE LIST

Luminous Intensity(IV)					
	BIN CODE	MIN	MAX	Unit	IF
R/B	A1	70	100	mcd	20mA
	A2	100	150		
	A3	150	200		
G	B1	200	400		
	B2	400	600		
	B3	600	800		

Tolerance on each Intensity bin is: +/-10%

Forward Voltange(VF)					
	BIN CODE	MIN	MAX	Unit	IF
R	VA1	1.8	2.0	V	20mA
	VA2	2.0	2.2		
	VA3	2.2	2.4		
	VA4	2.4	2.6		
G/B	VB1	2.8	3.0		
	VB2	3.0	3.2		
	VB3	3.2	3.4		
	VB4	3.4	3.6		

Tolerance on each Forward Voltage bin is: +/-0.1V

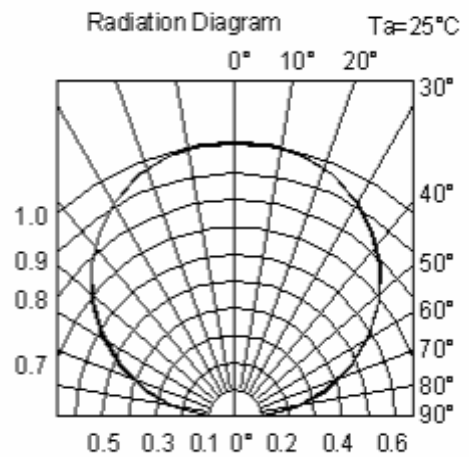
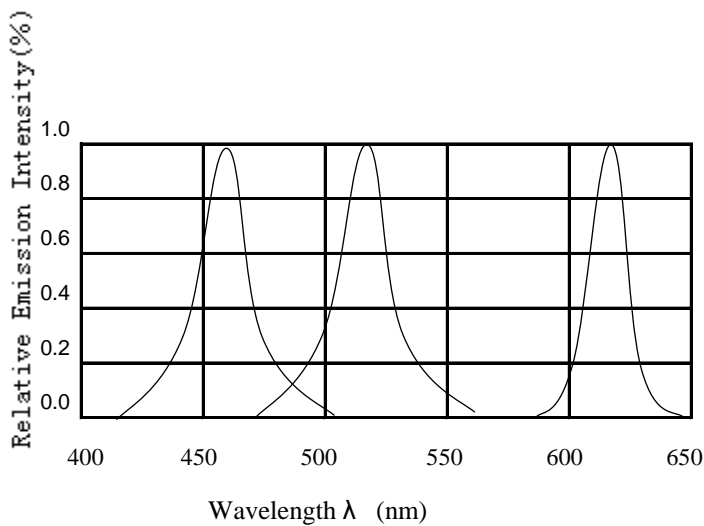
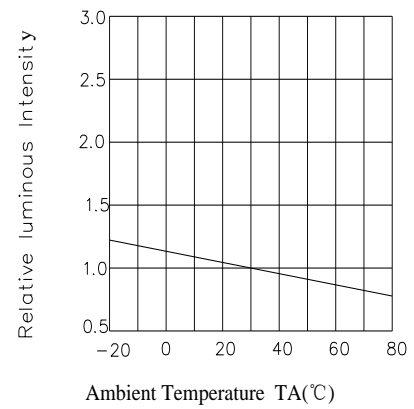
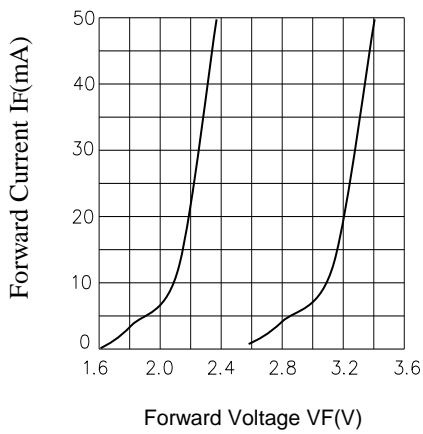
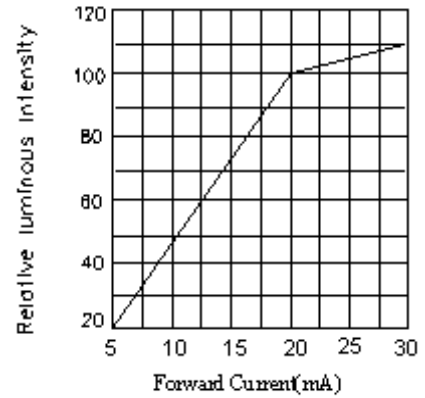
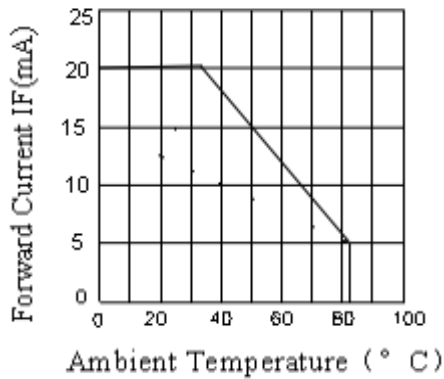
Dominant Wavelength(Hue)					
	BIN CODE	MIN	MAX	Unit	IF
R	N1	615	620	nm	20mA
	N2	620	625		
	N3	625	630		
G	O1	515	520		
	O2	520	525		
	O3	525	530		
B	P1	460	465		
	P2	465	470		
	P3	470	475		

Tolerance for each Dominate Wavelength bin is: +/- 1nm



Typical optical characteristics curves

Ambient Temperature VS. Forward Current





Reliability Test Items And Conditions

The reliability of products shall be satisfied with items listed below.

Confidence level :90%

LTPD :10%

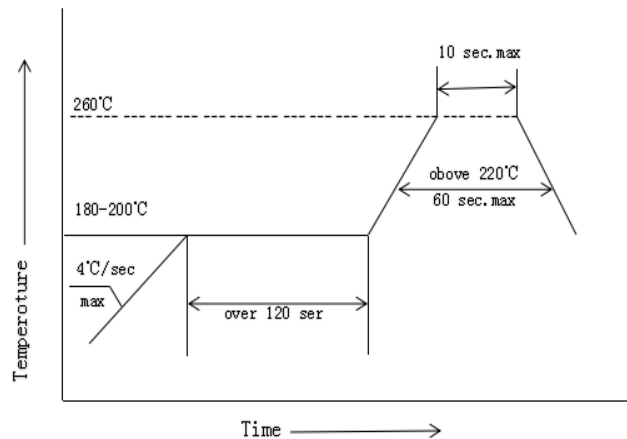
Test Items	Test conditions	Quantity	Judging Criteria
Solderability	Solder Temperature: 240°C Solder Duration: (3.5±0.5) sec.	22	Solderable Area Over 95%
Thermal Shock Followed by High Temperature And High Humidity Cyclic	-40°→10min 5 Cycles ↑ ↓ shift(2~3)min 100°C →10 min. 25°C~55°C (90%~95%) RH 2 Cycles for 48 hrs., Recover for 2 hrs	22	C=0 & I**
Resistance For Soldering Heat	Reflow Soldering	22	C=0 & I**
DC Operating Life	1000 hrs. Forward Current: 20mA	22	C=0 & I**
High Temperature Storage	100°C → 1000 hrs	22	C=0 & I**
High Temperature And High Humidity Cyclic	25°C~55°C (90%~95%) RH 6 Cycles for 144 hrs., Recover for 2 hrs.	22	C=0 & I**

The technical information shown in the data sheets are limited to the typical characteristics and circuit examples of the referenced products. It does not constitute the warranting of industrial property nor the granting of any license.



SMT Reflow Soldering Instructions

1. Reflow soldering should not exceed once.
2. In soldering process, do not stress on the LEDs during heating.

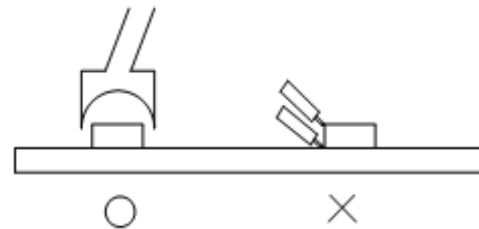


Soldering iron

1. When hand soldering, the temperature of the iron must be lower than 300°C for 3 seconds.
2. The hand solder should be done only one time.

Repairing

Repair should not be done after the LEDs have been soldered. When repairing is unavoidable, a double-head soldering iron should be used (as shown in the figure). It should be confirmed beforehand whether the characteristics of LEDs will or will not be damaged by repairing.



Storage

The package is sealed:

1. Recommended storage condition: At 5°C~30°C and relative humidity 90% RH max.
2. It is recommended that SMD out of their original packaging are used within one year.

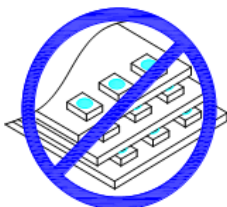
The package is opened:

1. After this bag is opened, devices that will be applied to infrared to infrared reflow, vapor-phase reflow.
 - a. Completed within 672 hours.
 - b. Stored at 5°C~30°C and 60% RH or less.
2. If baking is required, devices must be baked under the following conditions: 24 hours at 60°C±3°C.

Handling Precautions

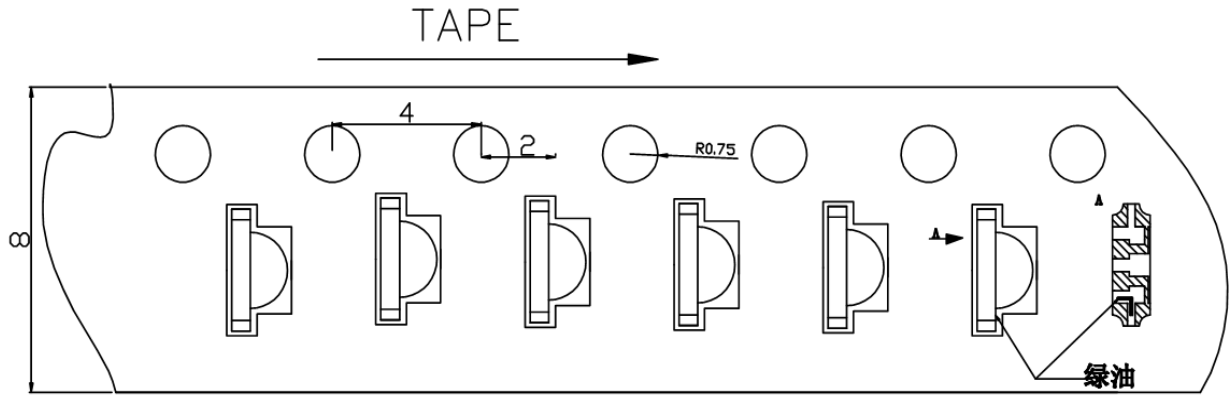
1. Do not stack together assembled PCBs containing LEDs. Impact may scratch the silicone lens or cause damage.

2. Not available in the situation of acidity for PH.



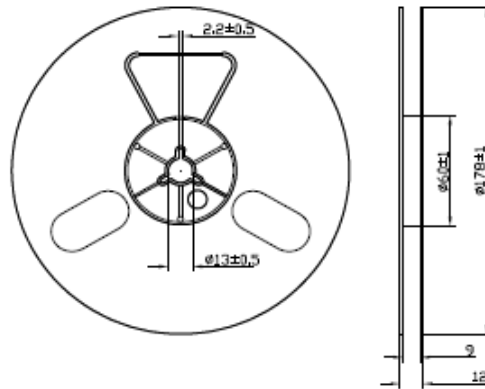


PACKAGING



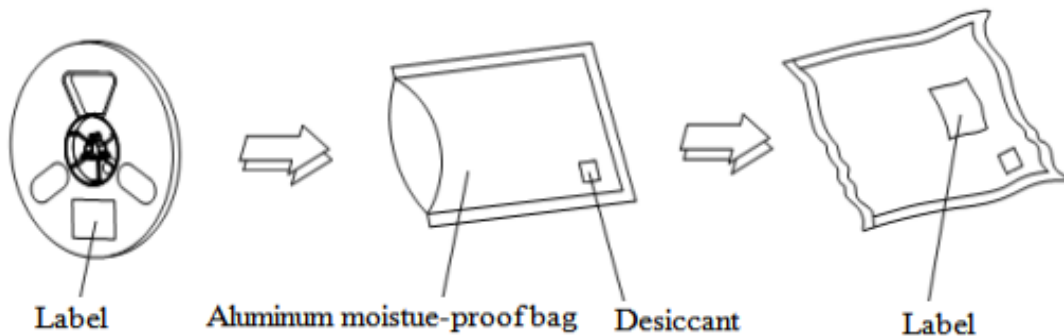
Package: 3000PCS/reel

Reel Dimensions



Note: The tolerances unless mentioned is ± 0.1 mm, Unit: mm

Moisture Resistant Packaging





文件修订记录：

版别	修订日期	文件修订内容	修订人
A/1	2017. 09. 12	新制定	罗贤银