Y.LIN ELECTRONICS CO.,LTD.

Data Sheet

Customer: H1A800053

Part No: YLS1615/2R1G/22/06-C

Sample No: S20210724-137

Description: 1615 Red/Green SMD

Item No:

Long Code: 01.01.11.000906

Customer			
Check	Inspection	Approval	Date

Y.LIN			
Drawn	Check	Approval	Date
			2022/7/2

TEL:0769-87181888 FAX:0769-87187333

E-mail:yonglin@y-lin.com Http://www.yong-lin.net

Mainland address:NO.3 Xinguang Road,Jinhe the third Industrial Zone,Zhangmutou Town

Dongguan Guangdong China

Y.LIN ELECTRONICS CO.,LTD.

YLS1615/2R1G/22/06-C

变更记录 Change History list				
版本 Version	变更描述 Change Description	核对 Checked	审核 Approved	日期 Date
A/1	首次发行	赵杰	谭琪琪	2022/7/2

YLS1615/2R1G/22/06-C

Features:

. Reflow Solderable

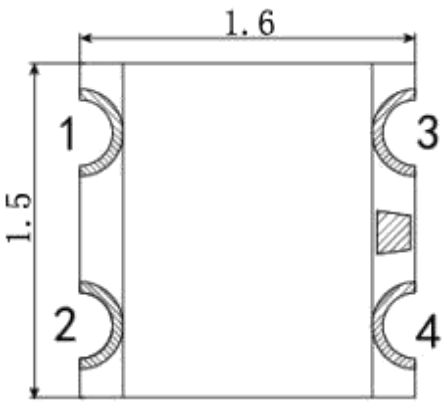
. High Luminous Intensity and Low Power Dissipation

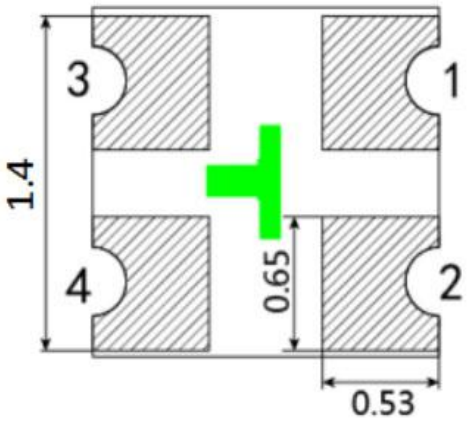
. Good Reliability and Long Life

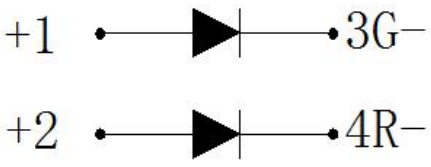
. Complied With RoHS Directive

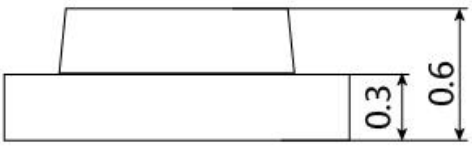
Applications

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

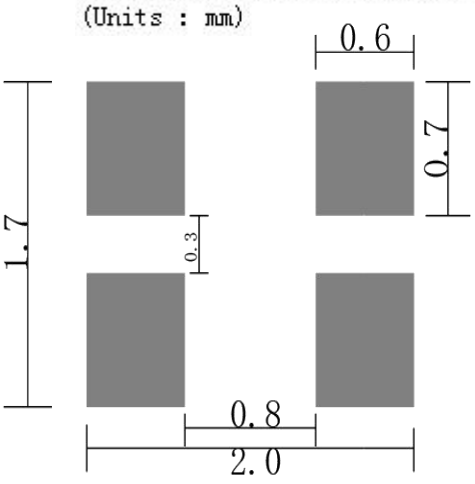








Recommended Soldering Pattern:
(Units : mm)



Notes:

1 . All dimension units are millimeters.

2. All dimension tolerance is ±0.2mm unless otherwise noted.

3. All PCB and markings are subject to change without prior notice.

YLS1615/2R1G/22/06-C

Selection Guide

Part No.	Chip Materials	Lens Type	Luminous intensity(mcd) @ 20mA			Viewing Angle
			Min	Typ	Max	2θ1/2
YLS1615/2R1G/22/06-C	(R)AIGaInP	Water Clear	270	- -	600	120
	(G)InGaN		600	- -	1300	

Note:

1.1/2 is the angle from optical centerline where the luminous intensity is 1/2 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	- -	2.4	V	IF=20mA
	G	2.7	- -	3.3		
Reverse Current	IR	- -	- -	10	uA	VR = 5V
Half wave width	R/B	- -	20	- -	nm	IF=20mA
	G	- -	30	- -		
Dominate Wavelength	R	617	- -	626	nm	IF=20mA
	G	518	- -	527		

Absolute Maximum Ratings at Ta=25°C

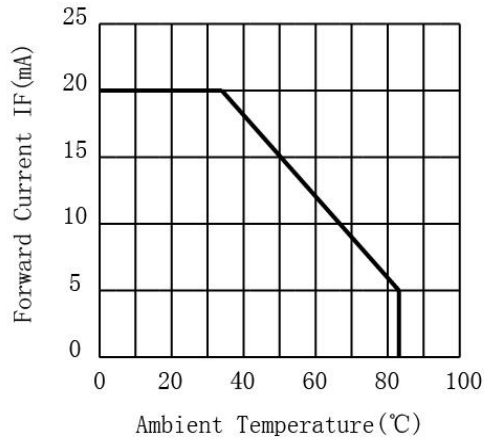
Parameter	Symbol	Rating	Units
Power Dissipation	R	48	mW
	G	66	
DC Forward Current	IF	20	mA
Peak Forward Current [1]	R	75	mA
	G	100	
Reverse Voltage	VR	5	V
Electrostatic Discharge (HBM)	ESD	2000	V
Operating Temperature	Topr	-40~+85	°C
Storage Temperature	Tstg	-40~+100	°C

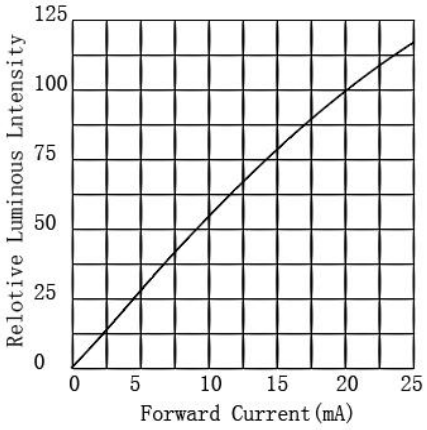
Note:

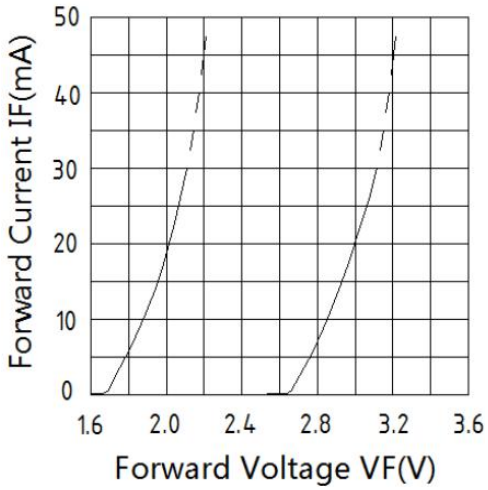
1. 1/10 Dut cycle,0.1ms pulse width.
2. The above forward voltage measurement allowance tolerance ±0.1V.
3. The tolerance of wave length:±1nm.

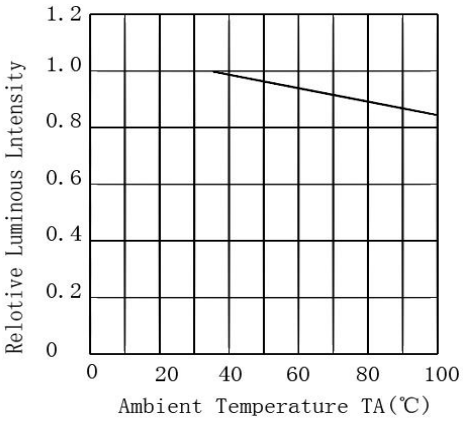
Typical optical characteristics curves

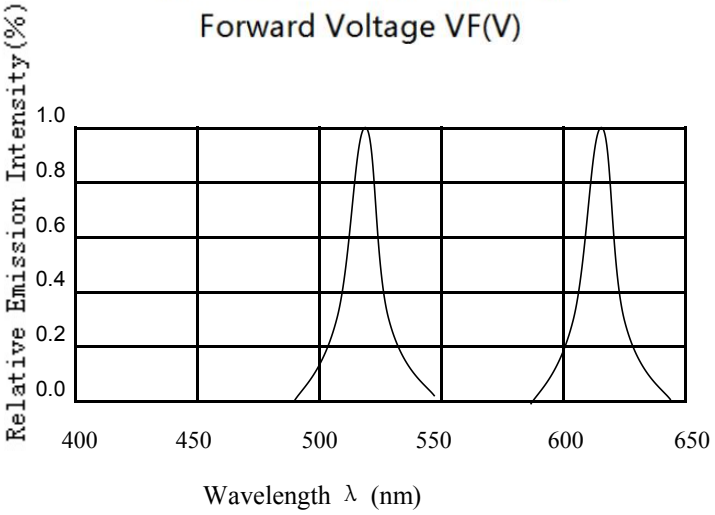
Ambient Temperature VS. Forward Current

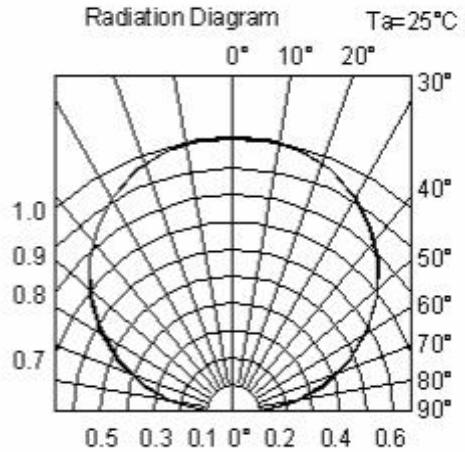












Reliability Test Items And Conditions

Test Items	Ref.Standard	Test conditions	Time	Quantity	Ac/Re
Reflow Soldering	JESD22-B106	Temp.:260℃±5℃ Min.5sec.	3 times.	22Pcs.	0/1
Temperature Cycle	JESD22-A104	100℃±5℃ 30 min. ↑↓5 min -40℃±5℃ 30 min.	100 Cycles	22Pcs.	0/1
High Temperature Storage	JESD22-A103	Temp:100℃±5℃	1000Hrs	22Pcs.	0/1
Low Temperature Storage	JESD22-A119	Temp:-40℃±5℃	1000Hrs	22Pcs.	0/1
Life Test	JESD22-A108	Ta=25℃±5℃ IF=20mA	1000Hrs	22Pcs.	0/1
High temperature and high humidity storage experiment	JESD22-A101	85℃±5℃/ 85%RH	1000Hrs	22Pcs.	0/1

Criteria For Judging Damage

Test Items	Symbol	Test conditions	Criteria For Judgement	
			Min.	Max.
Forward Voltage	VF	IF=20mA		U.S.L*)x1.1
Reverse Current	IR	VR = 5V		U.S.L*)x2.0
Luminous intensity	IV	IF=20mA	L.S.L*)x0.6	

U.S.L: Upper standard level L.S.L: Lower standard level

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.

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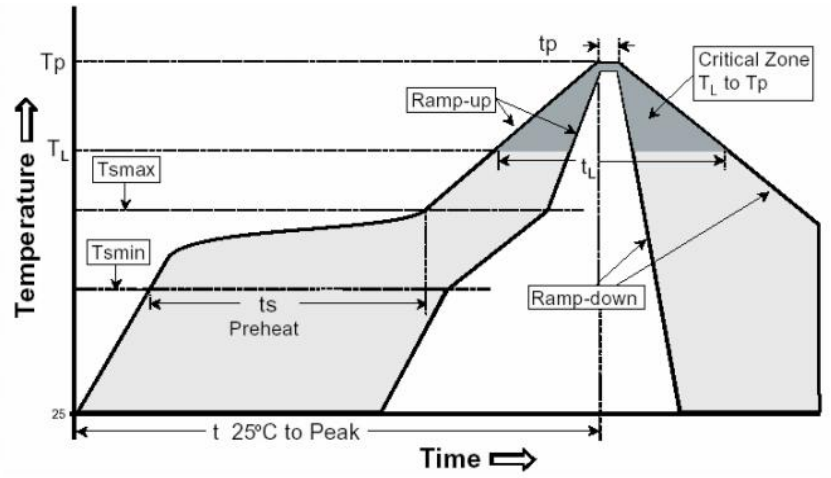
SMT Reflow Soldering Instructions

1.High temperature welding recommended no more than 2 times.

2. When soldering , do not put stress on the LEDs during heating .

3.Reflow temperature distribution (Acc.to J-STD-020D)

Profile Feature	Sn-Pb Eutectic Assembly		Pb-Free Assembly	
	Large Body	Small Body	Large Body	Small Body
Average ramp-up rate (TL to Tp)	3℃/second max.		3℃/second max.	
Preheat -Temperature Min(TSmin) -Temperature Max(TSmax) -Time(min to max)(ts)	100℃ 150℃ 60-120 seconds		150℃ 200℃ 60-180 seconds	
Tsmax to TL -Ramp-up Rate			3℃/second max.	
Time maintained above: -Temperature(TL) -Time(tL)	183℃ 60-150 seconds		217℃ 60-150 seconds	
Peak Temperature(Tp)	225+0/-5℃	240+0/-5℃	245+0/-5℃	260+0/-5℃
Time within 5℃ of actual Peak Temperature(tp)	10-30 seconds	10-30 seconds	10-30 seconds	20-40 seconds
Ramp-down Rate	6℃/second max.		6℃/second max.	
Time 25℃ to Peak Temperatur	6 minutes max.		8 minutes max.	



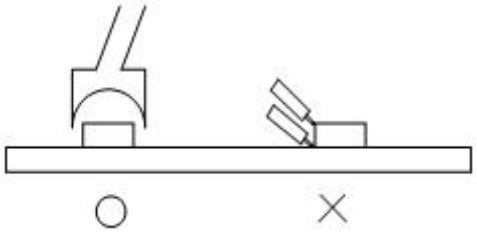
Soldering iron

1.When hand soldering, the temperature of the iron must less than 350℃ for 3 seconds

2.The hand solder should be done only one times

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 below figure). It should be confirmed in advance whether the characteristics of LEDs will or will not be damaged by repairing.



Storage

Before the package is opened:

The storage environment shall be between 5 °C and 30 °C and the relative humidity shall be within 60 % RH. When the storage time of the product exceeds 1 year, the product must be re-baked before it can be used.

After opening the package:

1、The ambient temperature should be kept between ≤ 30 ° C and relative humidity
The lower 60 % RH should be maintained.

2. If the material has not been produced after being exposed in the workshop for more than 672 hours, the product must be put back into the oven and dehumidified at 65℃ for 12H before reuse.

3、When the material is dehumidified, please do not open the oven in the middle, so that the oven temperature will not drop to the dehumidification effect.

ESD

Static Electrisity will damage the LED.

The following procedures may decrease the possibility of ESD damage.

1.All productive machinery and test instruments must be electrically grounded.

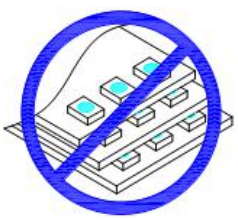
2.Use a condustive wrist band or anti-electostatic glove when handling these LEDs.

3.Manintain a humidity level of 50%RHor higher in production areas.

4.Use anti-static packaging for transport and storage.

Handling Precautions

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

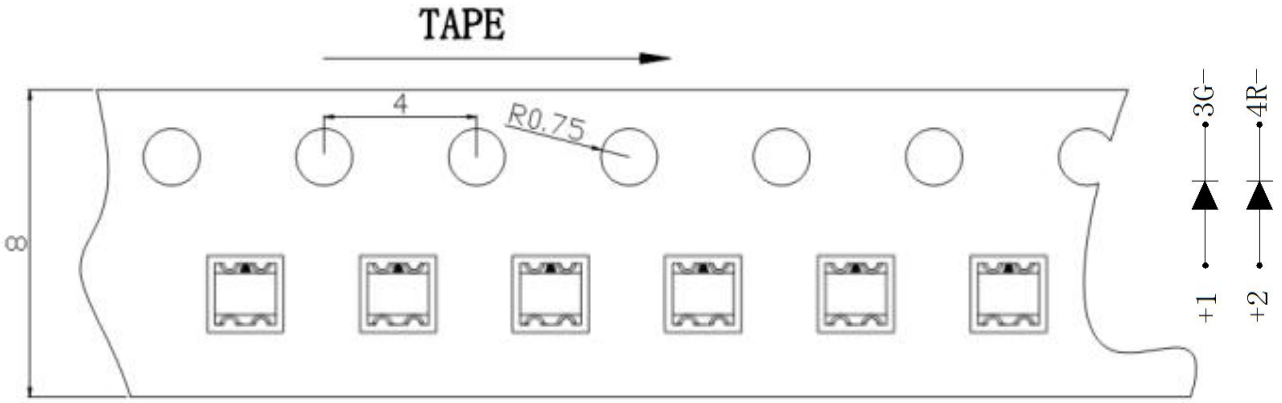


2.Not available in the situation of acidity for PH.

3.Electrostatic sensitive device

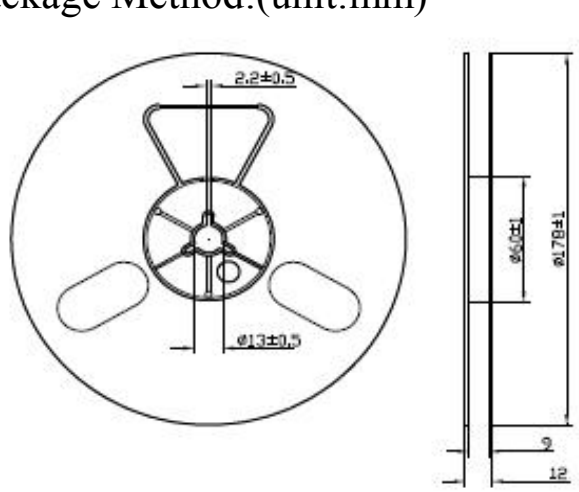
YLS1615/2R1G/22/06-C

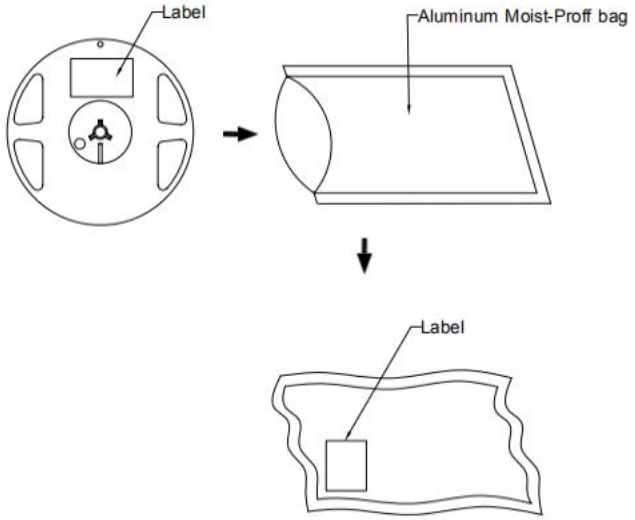
Packaging



Package: 4000 pcs/reel

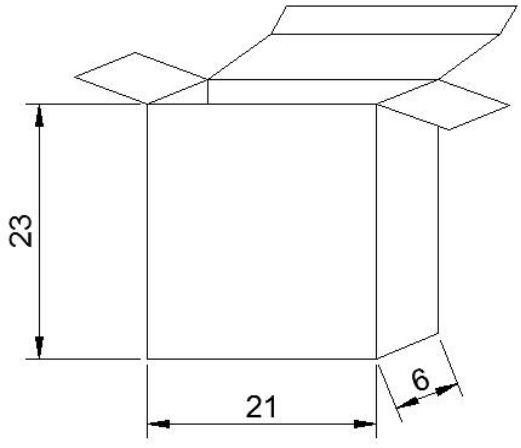
Package Method:(unit:mm)





Cardboard Box

Maximum packing quantity (5 packs of material)



Maximum packing quantity (50 bags of material or 9 small boxes)