



超越光电
CHAOYUE GUANGDIAN

深圳市超越光电有限公司

产品规格书 SPECIFICATION

产品名称 Product Name	1615红白双色 同向	客户名称 Customer	
产品型号 Type	CY-1615QRWC/6-同向	客户料号 Customer PN	
版本号 Version	C1	日期 Date	2020/12/15

节能减排
卓越创新



客户承认栏 Customer Approval			
制定 DRAW	审核 CHECK	核准 APPROVE	确认 CONFIRM
若英文译本与中文有异，以中文版本为准。 Should there be any inconsistencies between Chinese and English versions, the Chinese version shall prevail.			

PRELIMINARY SPEC

1.6x1.5X0.58mm SMD CHIP LED

PART NO: CY-1615QRWC/6-同向



ATTENTION
OBSERVE PRECAUTIONS
FOR HANDLING
ELECTROSTATIC
DISCHARGE SENSITIVE
DEVICES

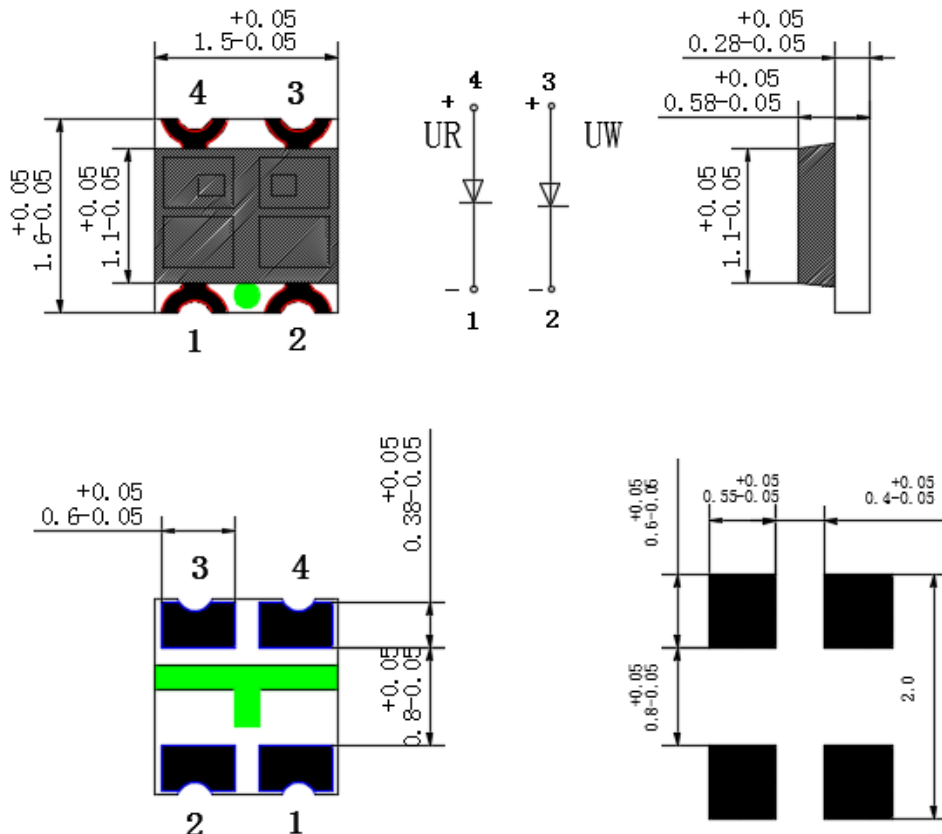
Features

- 1.6mmx1.5mm SMT LED, 0.58mm THICKNESS.
- WIDE VIEWING ANGLE.
- IDEAL FOR BACKLIGHT AND INDICATOR.
- PACKAGE : 4000PCS / REEL.
- RoHS COMPLIANT.

Applications

- Automotive: backlighting in dashboard and switch.
- Telecommunication: indicator and back-lighting in telephone and fax.
- Flat backlight for LCD switch and symbol.

◆ Package Dimensions



Notes:

1. All dimensions are in millimeters.
2. Tolerance is ± 0.15 unless otherwise noted.
3. Specifications are subject to change without notice.

◆ Device Selection Guide

Part No.	Chip		Lens color
KO-1615QRWC/6-同 向	Material	Emitted color	Yellow Fluorescent
	(AlGaInP)	RED	
	INGAN	WHITE	

◆ Absolute Maximum Ratings at TA=25°C

Parameter	Symbol	Value			Unit
		UR	W		
Power Dissipation	PD	35	100		mW
Forward Current	IF	20	20		mA
Peak Forward Current*1	IFP	100	100		mA
Reverse Voltage	VR	5			V
Operating Temperature	Topr	-40°C To +85°C			
Storage Temperature	Tstg	-40°C To +85°C			

Notes:

*1: Pulse width≤0.1ms, Duty cycle≤1/10

◆ Electrical / Optical Characteristics at TA=25°C

Parameter	Symbol	Min	typ	Max	Unit	Test Conditions
Forward Voltage	VF(UR)	1.8	—	2.3	V	IF=20mA
	VF(W)	2.7	—	3.2	V	IF=5mA
Reverse Current	IR	—	—	10	μA	VR=5V
Dominant Wave Length	λd(UR)	617	—	630	nm	IF=20mA
	X	0.23	—	0.31	nm	IF=5mA
	Y	0.23	—	0.31	nm	
Luminous Intensity	IV(UR)	70	—	200	mcd	IF=20mA
	IV(W)	200	—	400	mcd	IF=5mA
Viewing Angle	2θ1/2	—	120	—	Deg.	IF=5mA

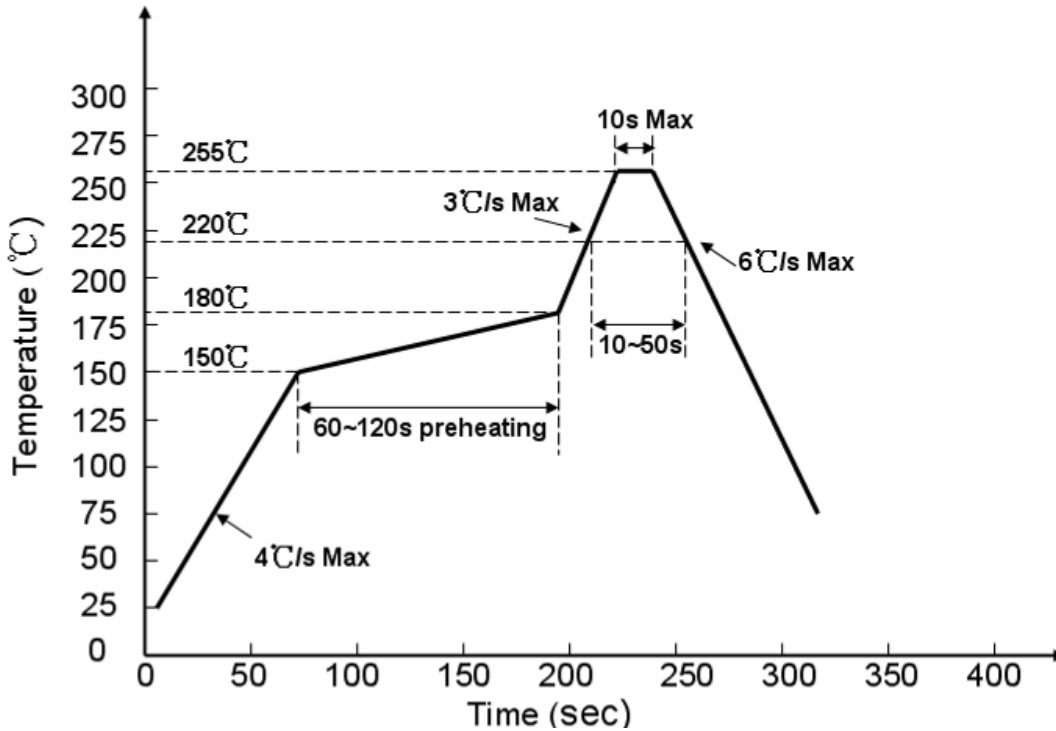
Remarks:

If special sorting is required (e.g. binning based on forward voltage, luminous intensity, or

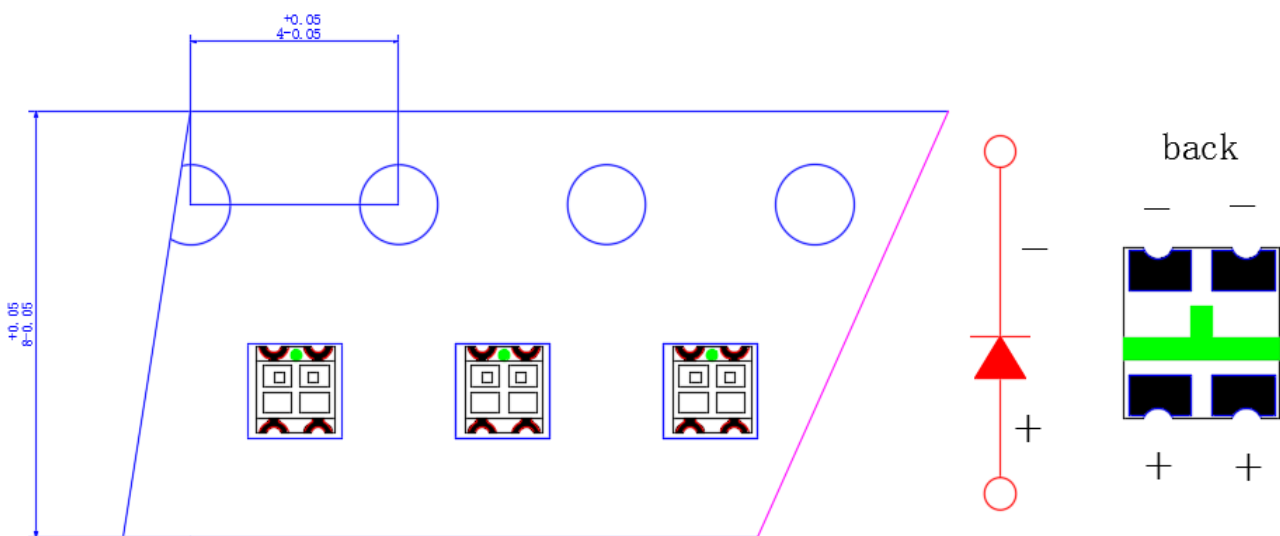
chromaticity), the typical accuracy of the sorting process is as follows:

1. Chromaticity Coordinates: ± 0.01
2. Luminous Intensity: $\pm 15\%$
3. Forward Voltage: $\pm 0.1V$

◆ Soldering Profile



◆ Carrier Tape Dimensions: Loaded Quantity 4000pcs Per Reel



◆ Typical Electrical/Optical Characteristics Curves

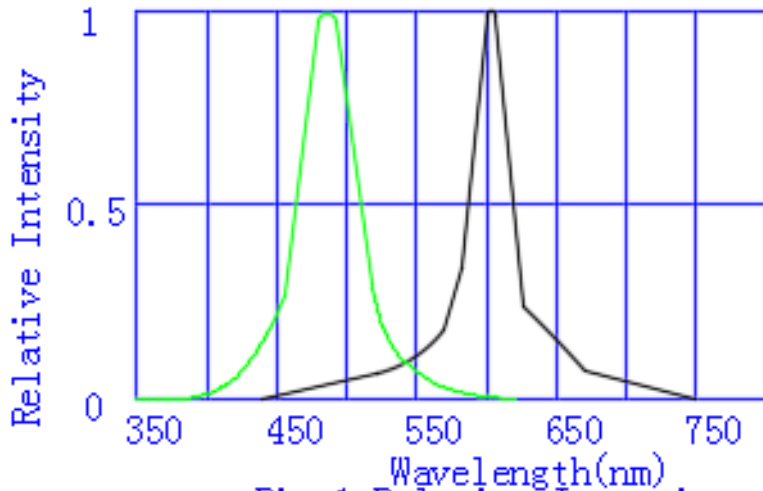


Fig. 1 Relative Intensity vs Wavelength

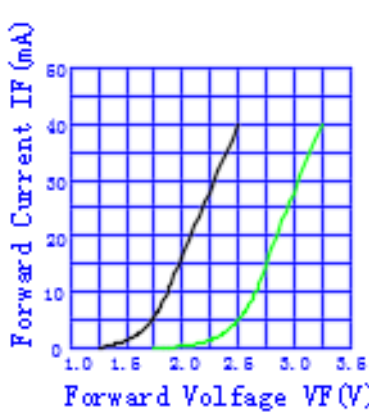


Fig. 2 Forward Current vs. Forward Voltage

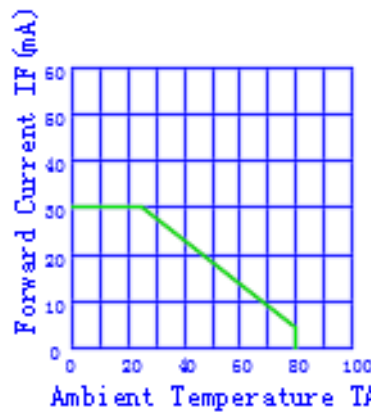


Fig. 3 Forward Current vs. derating Curve

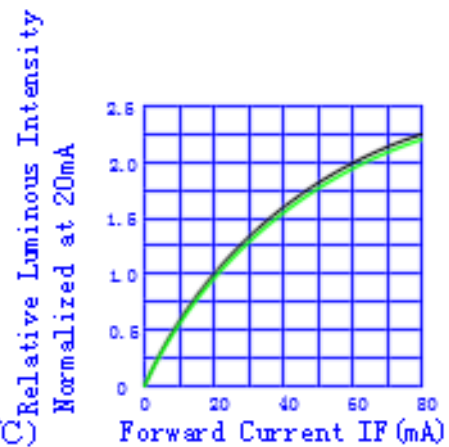


Fig. 4 Relative Luminous Intensity vs. Forward Current

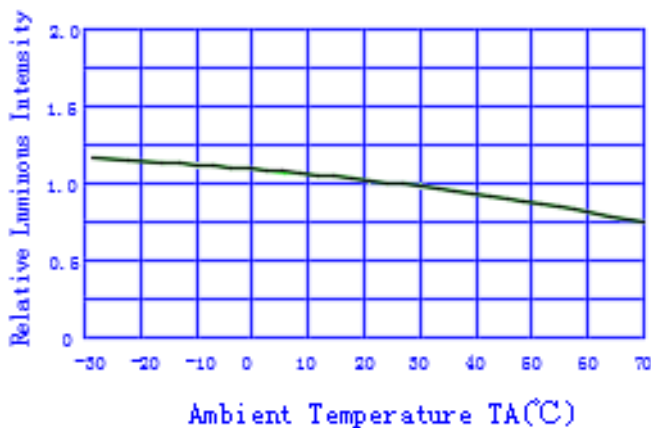


Fig. 5 Luminous Intensity vs. Ambient Temperature

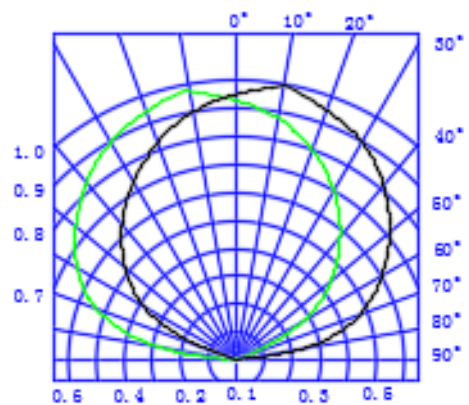


Fig. 6 Spatial Distribution

◆ VF Rank

Rank		VF		Condition
		MIN	MAX	
UR	a3	1.9	2.1	IF=20mA
	a4	2.1	2.3	
UW	b3	2.7	2.9	IF=5mA
	b4	2.9	3.1	

Tolerance: $\pm 0.05V$

◆ IV Rank

Rank		IV		Condition
		MIN	MAX	
UR	m	70	120	IF=20mA
	n	120	200	
UW	p	200	300	IF=5mA
	q	300	400	

olerance: $\pm 15\%$

◆ WLD Rank

Rank		IV		Condition
		MIN	MAX	
UR	J1	617	625	IF=5mA
	J2	625	630	
UW				

olerance: $\pm 1nm$

◆ Judgment criteria of failure for the reliability

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Measuring items	Symbol	Measuring conditions	Judgement criteria for failure
Forward voltage	$V_F(V)$	$I_F=5mA$	Initial Level*1.1
Reverse current	$I_R(UA)$	$V_R=5V$	Over U*2
Luminous intensity	$IV(mcd)$	$I_F=5mA$	Initial Level*0.7

Note: 1.U means the upper limit of specified characteristics.

2.Measurment shall be taken between 2 hours and after the test pieces have been returned to normal ambient conditions after completion of each test.

◆ CAUTIONS:

1.Storage

• In order to avoid the absorption of moisture, it is recommended to store in the dry box (or desicca tor) with a desiccant. Otherwise, to store them in the following environment is recommended.

Temperature: 5°C~30°C

Humidity: 60%HR max.

• Attention after opened

However LED is corresponded SMD, when LED be soldered dip, interfacial separation may affect The light transmission efficiency, causing the light intensity to drop. Attention in followed.

a. After opened and mounted, the soldering shall be quickly.

b. Keeping of a fraction

Temperature: 5°C~40°C

Humidity: less than 30%

• In case or more than 1 week passed after opening or change color of indicator on desiccant compo nents shall be dried 10-12hr. at 60°C±3°C.

• In case of supposed the components is humid, shall not be dried dip-solder just before. 100Hr at 80°C±3°C or 12Hr at 100°C±3°C

2.ESD (Electrostatic Discharge)

Static Electricity or power surge will damage the LED.

The following procedures may decrease the possibility of ESD damage.

- All production machinery and test instruments must be electrically grounded.
- Use a conductive wrist band or anti-electrostatic glove when handling these LEDs.
- Maintain a humidity level of 50% or higher in production areas.
- Use anti-static packaging for transport and storage.