



СВЕТОДИОДЫ BEELED – ТЕХНИЧЕСКОЕ ОПИСАНИЕ

MODEL: 1206QRYGL-001

Sample Approval Sheet

Product type:LED		
Product name: 3216		
Part No.: <u>1206QRYGL-001</u>		
Sample No.:		
Acknowledgement Numbers:		
Signatures		
Approved	Checked	Drawn
王艳	孙飞	李灵昌

客户（Customer）		
Corporation:		
Material No.:		
Part No.:		
Customer Signatures		



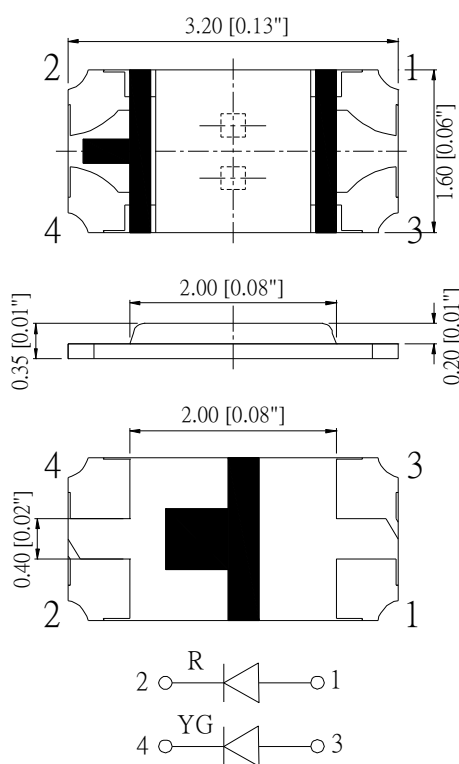
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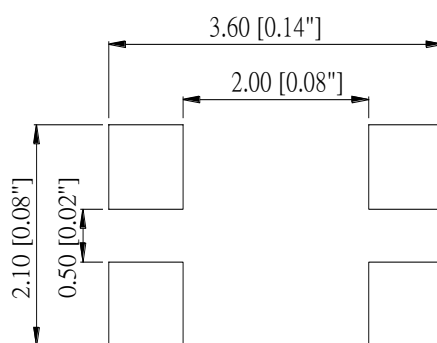
Feature

- *Low power consumption
- *Long life-solid state reliability
- *Available on tape and reel
- *RoHS compliant

Package outline dimensions



Recommend Pad Layout



Note:



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1. All dimensions are in millimeters (mm);
2. X.X, X.XX is +/-0.1mm
3. The device has a single mounting surface, the device must be mounted according to the specifications.

Electrical characteristics data sheet

Selection Guide

Part No.	Emitted Color	Resin color	Viewing Angle 2θ _{1/2}
1206RYGL-001	Red&YellowGreen	透明	120°

Absolute Maximum Ratings at Ta=25℃

Parameter (项目)	Symbol (符号)	Value (数值)		Unit (单位)
		R	H	
Power dissipation (功率消耗)	Pd	72	72	mW
DC Forward Current (正向电流)	If	30	30	mA
Peak Forward Current ⁽¹⁾ (峰值电流)	Ifp	125	125	mA
Reverse Voltage (反向电压)	Vr	5	5	V
Operating Temperature (工作环境温度)	Topr	-40to+100		℃
Storage Temperature (储存温度)	Tstg	-40to+100		℃
Lead Solder Temperature (焊接温度)	Tsol	260 for 5sec		℃

Notes:

1. 1/10 duty cycle, 0.1ms pulse width;
2. The products are sensitive to static electricity and must be carefully taken when handling products.

Electrical/Optical Characteristics Ta=25℃

Parameter	Symbol	Condition	Emitting Color	Value			Unit
				Min.	Typ.	Max.	
Forward voltage	Vf	If=20mA	R	1.8	---	2.4	V
			H	1.8	---	2.4	
Luminous intensity	Iv	If=20mA	R	80	140	---	mcd
			H	25	35	---	
Dominant wavelength	λd	If=20mA	R	620	---	630	nm
			H	565	---	576	
peak wavelength	λp	If=20mA	R	---	630	---	nm
			H	---	573	---	
Spectrum Radiation Bandwidth	Δλ	If=20mA	R	---	20	---	nm
			H	---	16	---	



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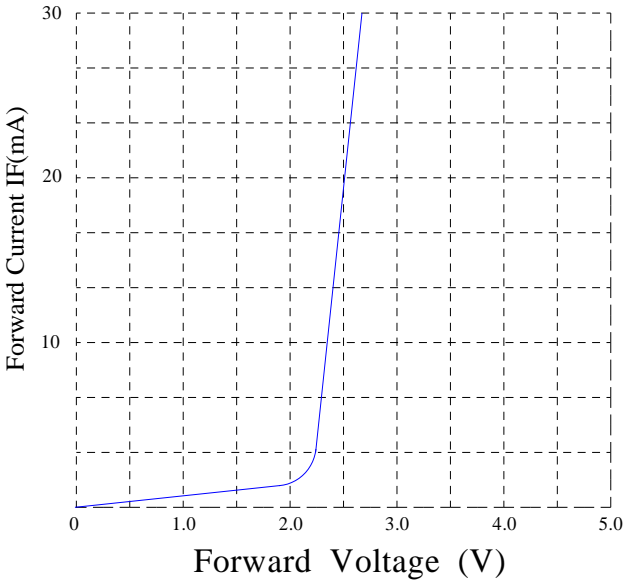
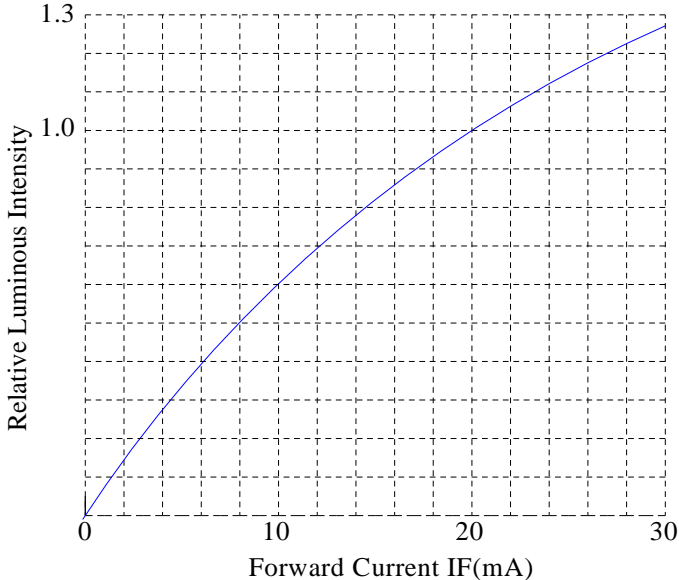
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Reverse current (反向电流)	Ir	Vr=5V	R	---	---	10	μ A
			H				

Notes:

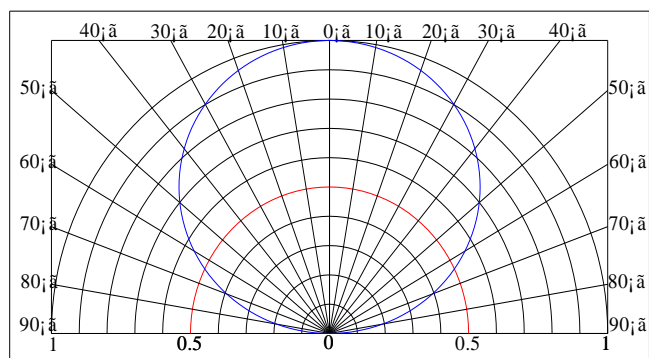
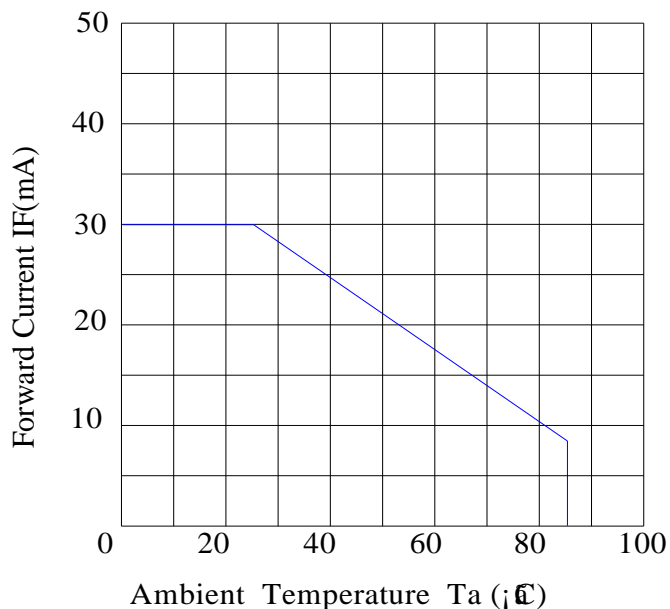
1. Forward voltage: $\pm 0.1V$;
2. wavelength: $\pm 1.5nm$
3. Luminous Intensity: $\pm 10\%$.

Typical Electro-Optical Characteristics Curves (R/H)

FORWARD CURRENT VS. FORWARD VOLTAGE 电流与电压的关系图	FORWARD CURRENT VS. LUMINOUS INTENSITY 电流与光强的关系图																								
 <table border="1"><caption>Approximate data points for Forward Current vs. Forward Voltage</caption><thead><tr><th>Forward Voltage (V)</th><th>Forward Current IF (mA)</th></tr></thead><tbody><tr><td>0.0</td><td>0.0</td></tr><tr><td>1.0</td><td>0.0</td></tr><tr><td>2.0</td><td>0.5</td></tr><tr><td>2.2</td><td>1.0</td></tr><tr><td>2.4</td><td>10.0</td></tr><tr><td>2.5</td><td>30.0</td></tr></tbody></table>	Forward Voltage (V)	Forward Current IF (mA)	0.0	0.0	1.0	0.0	2.0	0.5	2.2	1.0	2.4	10.0	2.5	30.0	 <table border="1"><caption>Approximate data points for Relative Luminous Intensity vs Forward Current</caption><thead><tr><th>Forward Current IF (mA)</th><th>Relative Luminous Intensity</th></tr></thead><tbody><tr><td>0</td><td>0.0</td></tr><tr><td>10</td><td>0.8</td></tr><tr><td>20</td><td>1.0</td></tr><tr><td>30</td><td>1.3</td></tr></tbody></table>	Forward Current IF (mA)	Relative Luminous Intensity	0	0.0	10	0.8	20	1.0	30	1.3
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AMBIENT TEMPERA TURE VS.FORWARD CURRENT	RADIATION DIAGRAM																								

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Reliability Test Items and Conditions

1、Test items and result

Test Item	Ref. Standard	Test Condition	Note	Number of Damaged
Resistance to Soldering Heat	JESD22-B106	$T_{sld}=260^{\circ}\text{C}, 10\text{sec}$	2 times	0/100
Temperature Cycle	JESD22-A104	-40°C 30min $\downarrow \uparrow$ 5min 100°C 30min	100 cycle	0/100
Thermal Shock	JESD22-A106	-40°C 15min $\uparrow \downarrow$ 100°C 15min	100 cycle	0/100
Power temperature Cycling	JESD22-A105	On 5min $-40^{\circ}\text{C} > 15\text{min}$ $\uparrow \downarrow \uparrow \downarrow < 15\text{min}$ Off 5min $100^{\circ}\text{C} > 15\text{min}$	100 cycle	0/100
High temperature Storage	JESD22-A103	$T_a=100^{\circ}\text{C}$	1000 hrs	0/100

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Low temperature Storage	JESD22-A119	$T_a = -40^{\circ}\text{C}$	1000 hrs	0/100
Lift Test	JESD22-A108	$T_a = 25^{\circ}\text{C}$ $I_F = 20\text{mA}$	1000 hrs	0/20
High Humidity Heat Lift Test	JESD22-A101	60°C RH=90 % $I_F = 20\text{mA}$	1000 hrs	0/20

2、Criteria for judging damage

Item	Symbol	Test Conditions	Criteria for Judgment	
			Min	Max
Forward voltage	VF	$I_F = 20\text{mA}$	--	$\text{U.S.L.}^*) \times 1.1$
Reverse current	IR	$V_R = 5\text{V}$	--	$\text{U.S.L.}^*) \times 2.0$
Luminous intensity	IV	$I_F = 20\text{mA}$	$\text{L.S.L.}^{**}) \times 0.7$	--

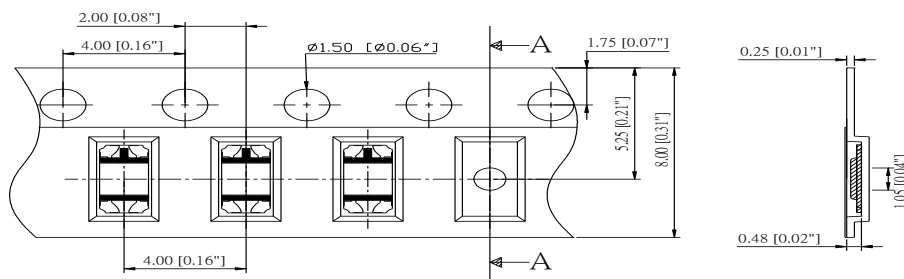
Notes:

U.S.L.: Upper Standard Level

L.S.L.: Lower Standard Level

Packaging Dimensions Specification

1、Carrier tape dimensions



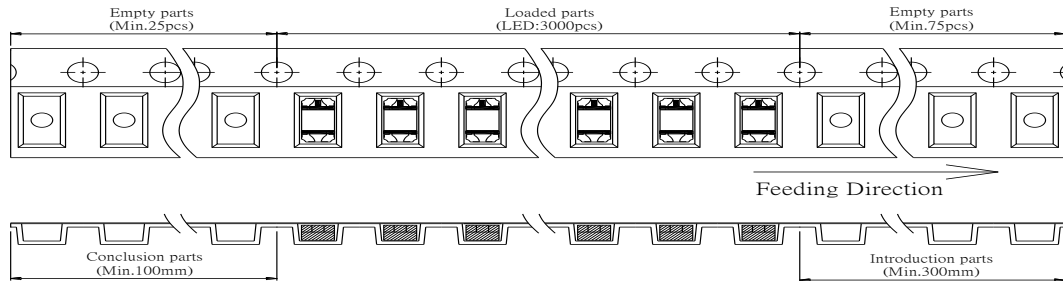
Notes:

- 1) All dimensions are in millimeters
- 2) Tolerance is ± 0.15 unless otherwise noted

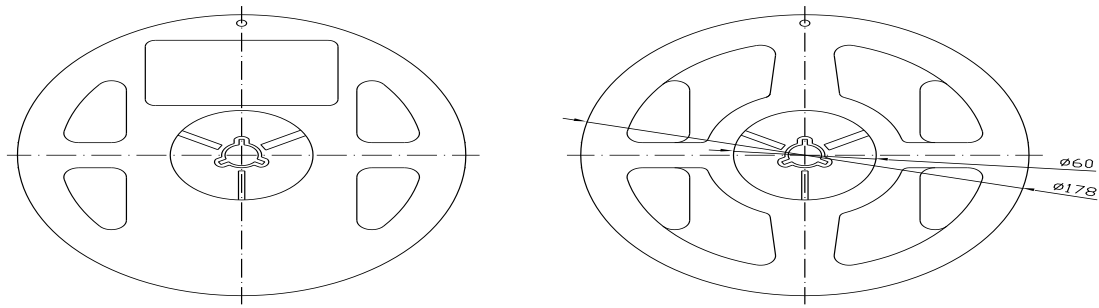
2、Details of carrier tape

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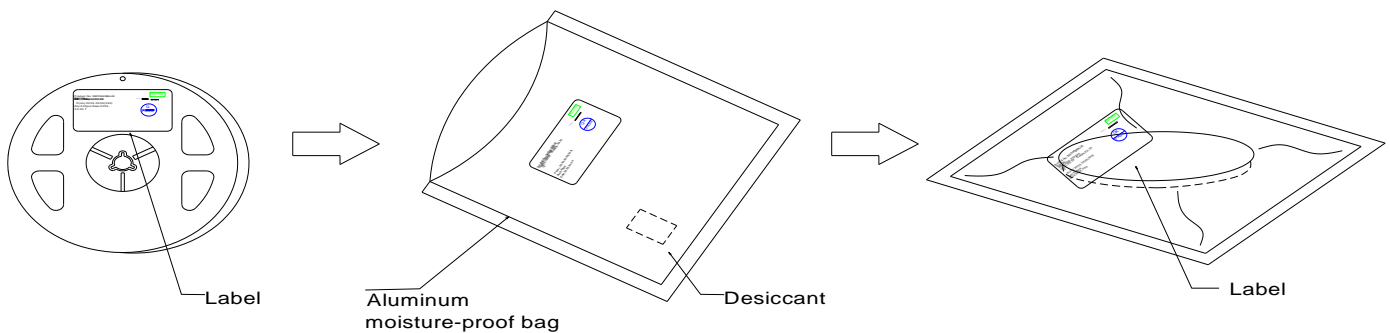


3、Reel dimensions



Packaging Dimensions Specification

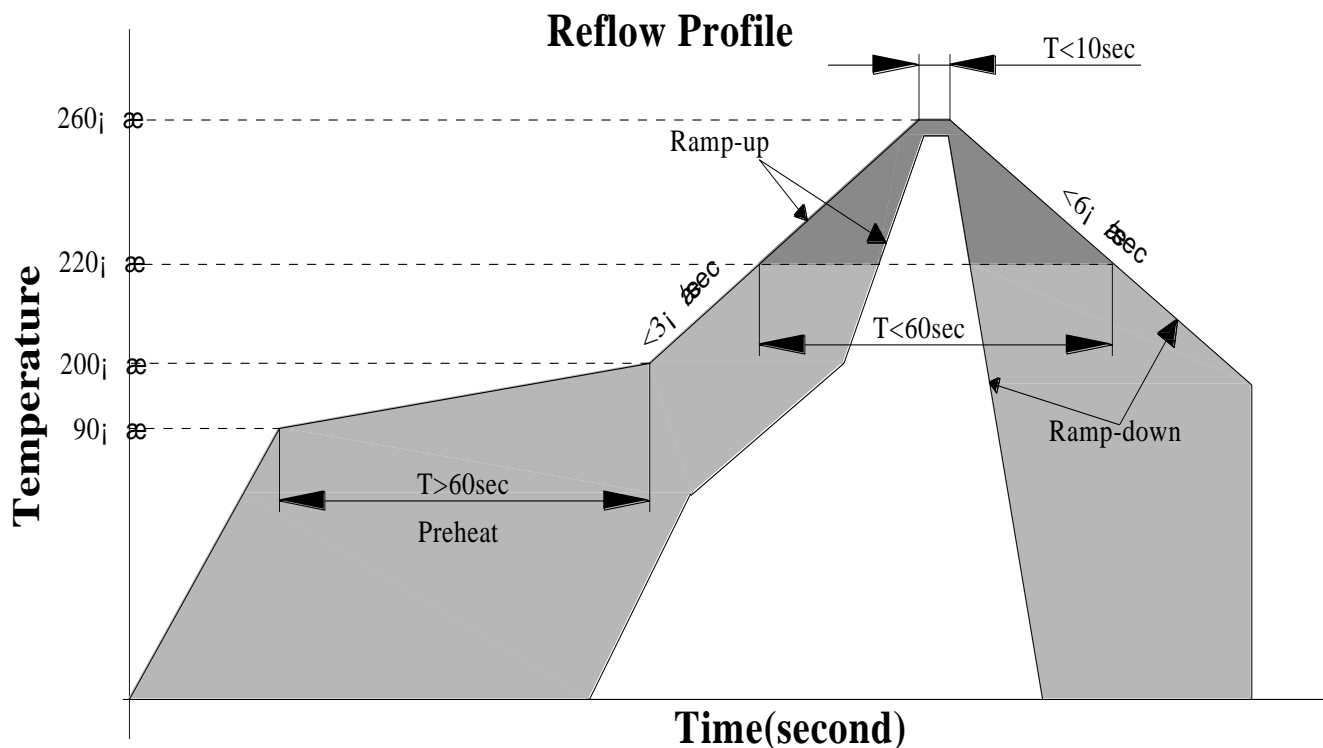
4、Moisture-Proof and anti-static electricity



Precautions

1、Requirements for application and reflow soldering 应用及回流焊要求:

Use the recommended curve in the under figure of Pb-free reflow soldering.



☆Notes for reflow soldering:

- 1) No more than twice for reflow soldering.
- 2) To ensure the quality of our LEDs, please do not put pressure on the LEDs.
- 3) Please choose the right nozzle to avoid the damage to products due to the pressure.
- 4) Please put on the antistatic hand loop during the use. The worktable should be with antistatic finish. The equipments must be contacted with ground.

☆Handwork soldering:

- 1) During the soldering, the electronic soldering iron must be kept under the temperature of 350°C and the soldering time must not be beyond 3 seconds. No touch between the electronic soldering iron and colloid.
- 2) Handwork soldering is only allowed once. We won't take responsibility for more than that.
- 3) Avoid using sharp objects to compress products Colloidal Part directly.
- 4) Please put on the antistatic hand loop during the use. The worktable should be with antistatic finish. The equipments must be contacted with ground.

2、Storage

☆Moisture proof and anti-electrostatic package with moisture absorbent material is used to keep moisture to a minimum.

Before opening the package, the product should be kept at 30°C or less and humidity less than 60%RH, and be used in six months.

☆After opening the package, the product should be stored at 30°C or less and humidity less than 10%RH, and be soldered within 24 hours. It is recommended that the product be operated at the workshop condition of 30°C or less and humidity less than



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60%RH.

☆If the moisture absorbent material has fade away or the LEDs have exceeded the storage time, baking treatment should be performed based on the following condition(60 ± 5) °C for 12 hour.

3、Static electricity

☆Static electricity or surge voltage damages the LEDs .Damaged LEDs will show some unusual characteristic such as the forward voltage comes lower, or the LEDs do not light at the low current. even not light.

All devices, equipment and machinery must be properly grounded. At the same time ,it is recommended that wrist bands or anti-electrostatic gloves, anti-electrostatic containers be used when dealing with the LEDs .

4、Vulcanization

☆LED curing is due to sulfur being in bracket and the +1 price of silver in the chemical reaction generated Ag_2S in the process It will lead to the capacity of reflecting of silver layer reducing, light color temperature drift and serious decline, seriously affecting the performance of the product. So we should take corresponding measures to avoiding vulcanization, Such as to avoid using Sulphur volatile substances and keeping away from high Sulphur content of the material.

5、Safety advice for human eyes

☆Viewing direct to the light emitting center of the LEDs, especially those of great luminous Intensity will cause great hazard to human eyes .Please be careful.

6、Design consideration

☆In designing a circuit about LED, the current through each LED must not exceed the absolute maximum rating specified for each LED. In the meanwhile, resistors for protection should be applied, otherwise slight voltage shift will cause big current change, burn out may happen.