



СВЕТОДИОДЫ BEELED – ТЕХНИЧЕСКОЕ ОПИСАНИЕ

MODEL: 1206QYGC-Z01

Sample Approval Sheet

产品类别(Product type):LED		
产品名称(Product name): 1210 yellow& green led		
产品编号(Part No.): 1210QYGC-Z01		
样品编号(Sample No.):		
承认书编号(Acknowledgement Numbers): 2018042512		
签核 (Signatures)		
核准(Approved)	审核(Checked)	制定(Drawn)
周冯	左耀州	李灵昌

客户 (Customer)		
公司名称(Corporation):		
物料编码(Material No.):		
物料名称(Part No.):		
客户确认 (Customer Signatures)		

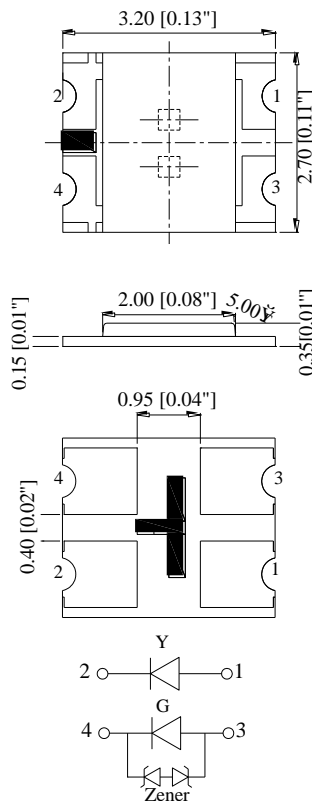
Feature

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

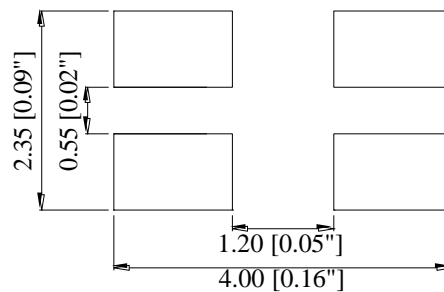
特征

- *低能耗
- *寿命长
- *易于装贴
- *符合 RoHS 要求

Package outline dimensions (产品外型尺寸)



Recommend Pad Layout



Note:

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.



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Electrical characteristics data sheet

Selection Guide (选用指示)

Part No. (产品型号)	Emitted Color (发光颜色)	Resin color (胶体颜色)	Viewing Angle (发光角度) 2 θ _{1/2}
1210QYGC-Z01	Yellow & Green	clear	140°

Absolute Maximum Ratings at Ta=25°C (极限参数)

Parameter (项目)	Symbol (符号)	Value (数值)		Unit (单位)
		Y	G	
Power dissipation (功率消耗)	Pd	72	111	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+80		°C
Storage Temperature (储存温度)	Tstg	-40to+85		°C
Lead Solder Temperature (焊接温度)	Tsol	260 for 5sec		°C

Notes:

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

Electrical/Optical Characteristics Ta=25°C

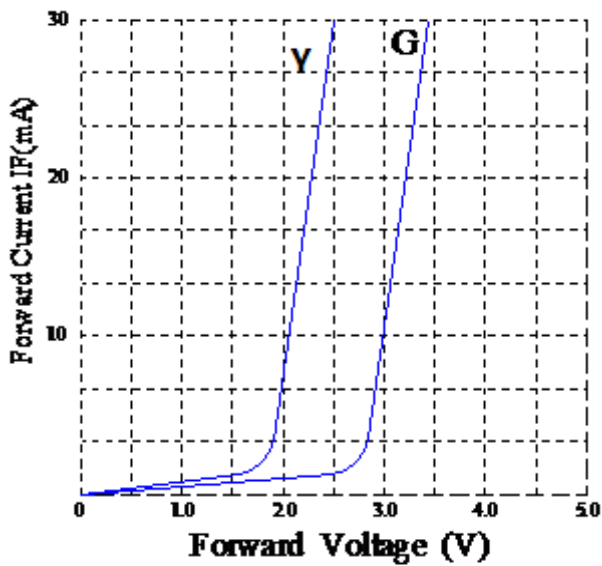
Parameter (参数)	Symbol (符号)	Condition (条件)	Emitting Color (发光颜色)	Value (数值)			Unit
				Min.	Typ.	Max.	
Forward voltage (正向电压)	Vf	If=20mA	Y	1.8	---	2.4	V
			G	2.8	---	3.6	
Luminous intensity (发光强度)	Iv	If=20mA	Y	100	125	---	mcd
			G	400	590	---	
Dominant wavelength (主波长)	λ_d	If=20mA	Y	585	---	595	nm
			G	520	---	530	
peak wavelength (峰值波长)	λ_p	If=20mA	Y	---	691	---	nm
			G	---	517	---	
Spectrum Radiation Bandwidth	$\Delta\lambda$	If=20mA	Y	---	18	---	nm
			G	---	37	---	
Reverse current (反向电流)	Ir	Vr=5V	Y	---	---	10	μ A
			G	---	---	10	

Notes:

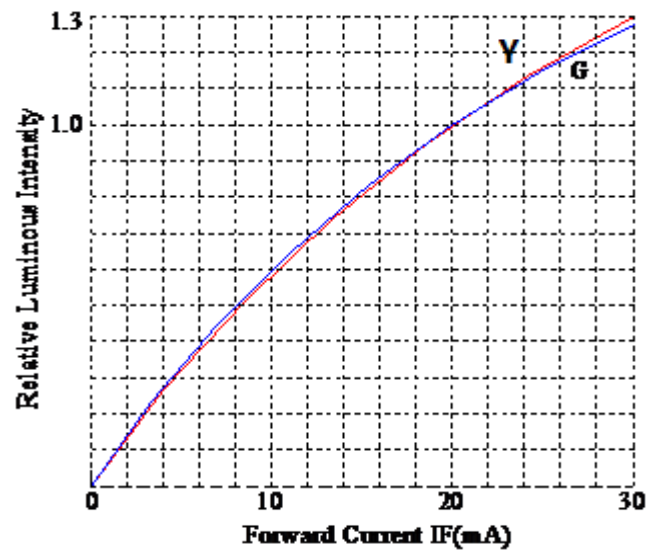
1. Forward voltage: $\pm 0.1V$;
2. wavelength: $\pm 1.5nm$
3. Luminous Intensity: $\pm 10\%$.

Typical Electro-Optical Characteristics Curves

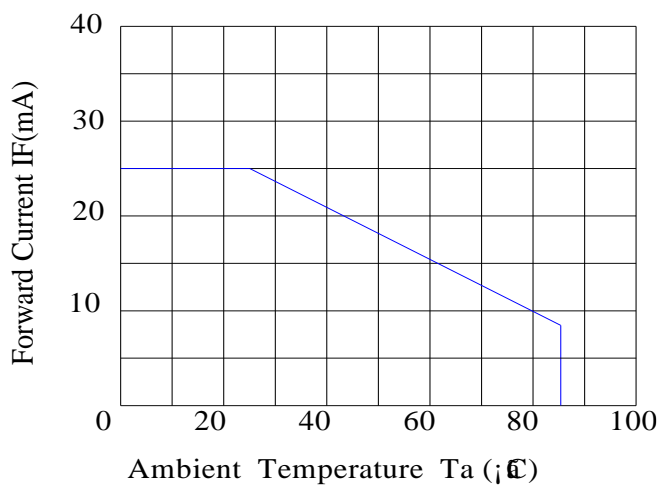
FORWARD CURRENT VS. FORWARD VOLTAGE
电流与电压的关系图



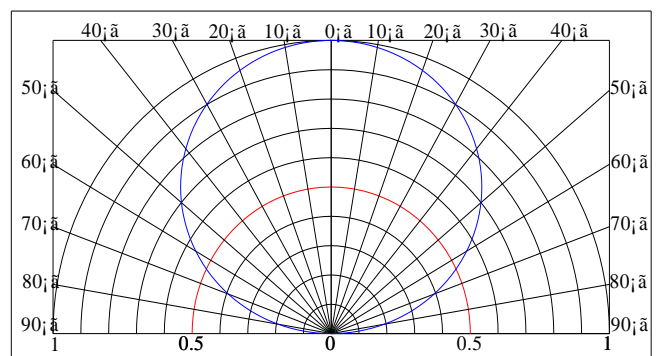
FORWARD CURRENT VS. LUMINOUS INTENSITY
电流与光强的关系图



AMBIENT TEMPERATURE VS. FORWARD CURRENT



RADIATION DIAGRAM





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Reliability Test Items and Conditions

1、Test items and result

Test Item 测试项目	Ref. Standard 参考标准	Test Condition 测试条件	Note 记录	Number of Damaged 受损数量
Resistance to Soldering Heat	JESD22-B106	Tsld=260°C,10sec	2 times	0/100
Temperature Cycle	JESD22-A104	-40°C 30min ↓↑ 5min 100°C 30min	100 cycle	0/100
Thermal Shock	JESD22-A106	-40°C 15min ↑↓ 100°C 15min	100 cycle	0/100
Power temperature Cycling	JESD22-A105	On 5min -40°C>15min ↑↓↑↓<15min Off 5min 100°C>15min	100 cycle	0/100
High temperature Storage	JESD22-A103	Ta=100°C	1000 hrs	0/100
Low temperature Storage (低温储存)	JESD22-A119	Ta=-40°C	1000 hrs	0/100
Lift Test (寿命测试)	JESD22-A108	Ta=25°C IF=20mA	1000 hrs	0/20
High Humidity Heat Lift Test (高温高湿老化)	JESD22-A101	60°C RH=90% IF=20mA	1000 hrs	0/20

2、Criteria for judging damage

Item 项目	Symbol 符号	Test Conditions 测试条件	Criteria for Judgment 判断标准	
			Min 最小	Max 最大
Forward voltage 正向电压	VF	IF=20mA	--	U.S.L*)×1.1
Reverse current 反向电流	IR	VR=5V	--	U.S.L*)×2.0
Luminous intensity 光照强度	IV	IF=20mA	L.S.L**)×0.7	--

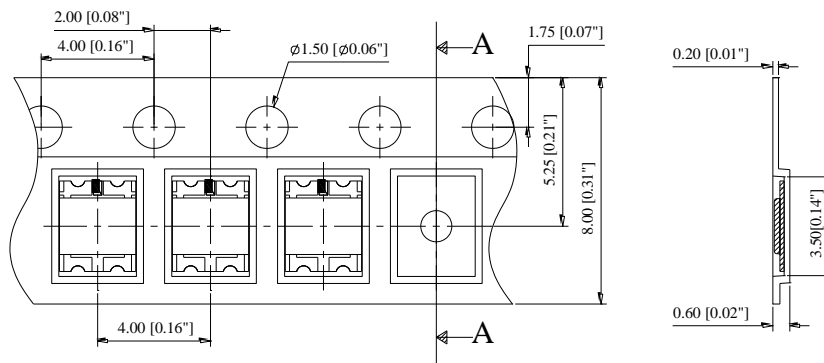
Notes:

U.S.L.: Upper Standard Level

L.S.L.: Lower Standard Level

Packaging Dimensions Specification(包装规格)

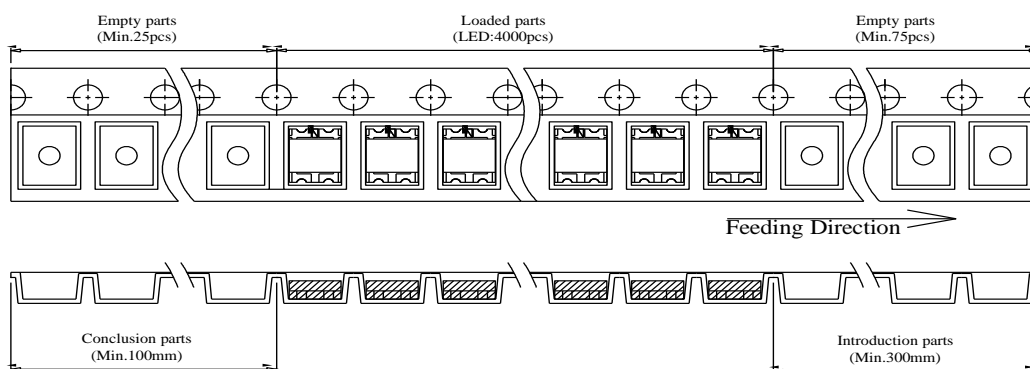
1、Carrier tape dimensions(载带包装)



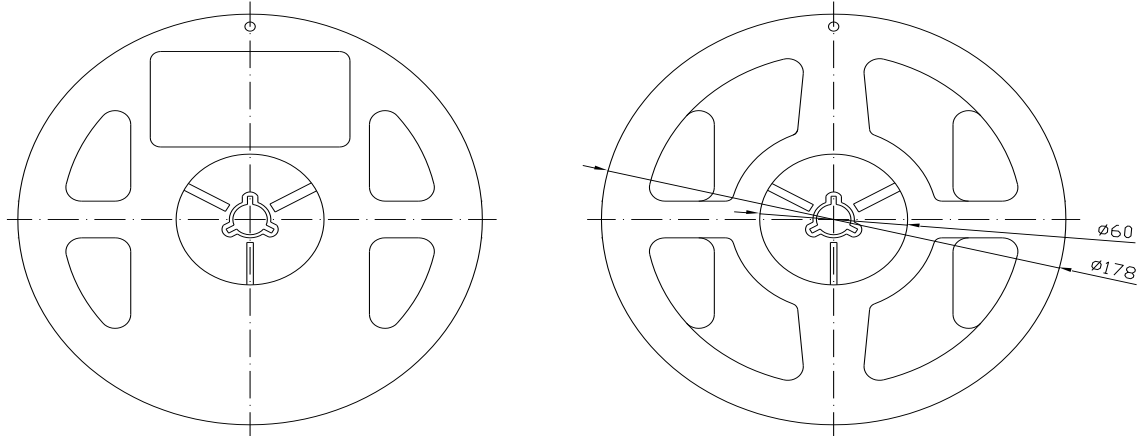
Notes:

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

2、Details of carrier tape(编带细节)

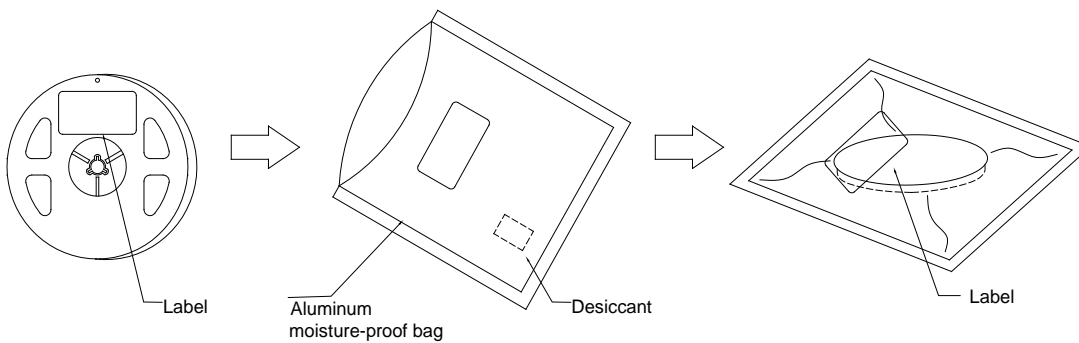


3、Reel dimensions(带盘尺寸)



Packaging Dimensions Specification(包装规格)

4、Moisture-Proof and anti-static electricity(防潮抗静电包装)



Forward Voltage Rank Combination (IF=20mA)

Rank		Min.	Max.	Unit
Yellow	□	1.8	2.4	V
Green	f	2.8	3.1	
	g	3.1	3.4	
	h	3.4	3.6	

Luminous Intensity Rank Combination (IF=20mA)

Rank		Min.	Max.	Unit
Yellow	B1	100	140	mcd
	B2	140	200	
	B3	200	280	



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Green	B1	400	560
	B2	560	784
	B3	784	1098

Dominant wavelength Rank Combination (IF=20mA)

Rank		Min.	Max.	Unit
Yellow	Y1	585	590	nm
	Y2	590	595	
Green	G1	520	525	
	G2	525	530	

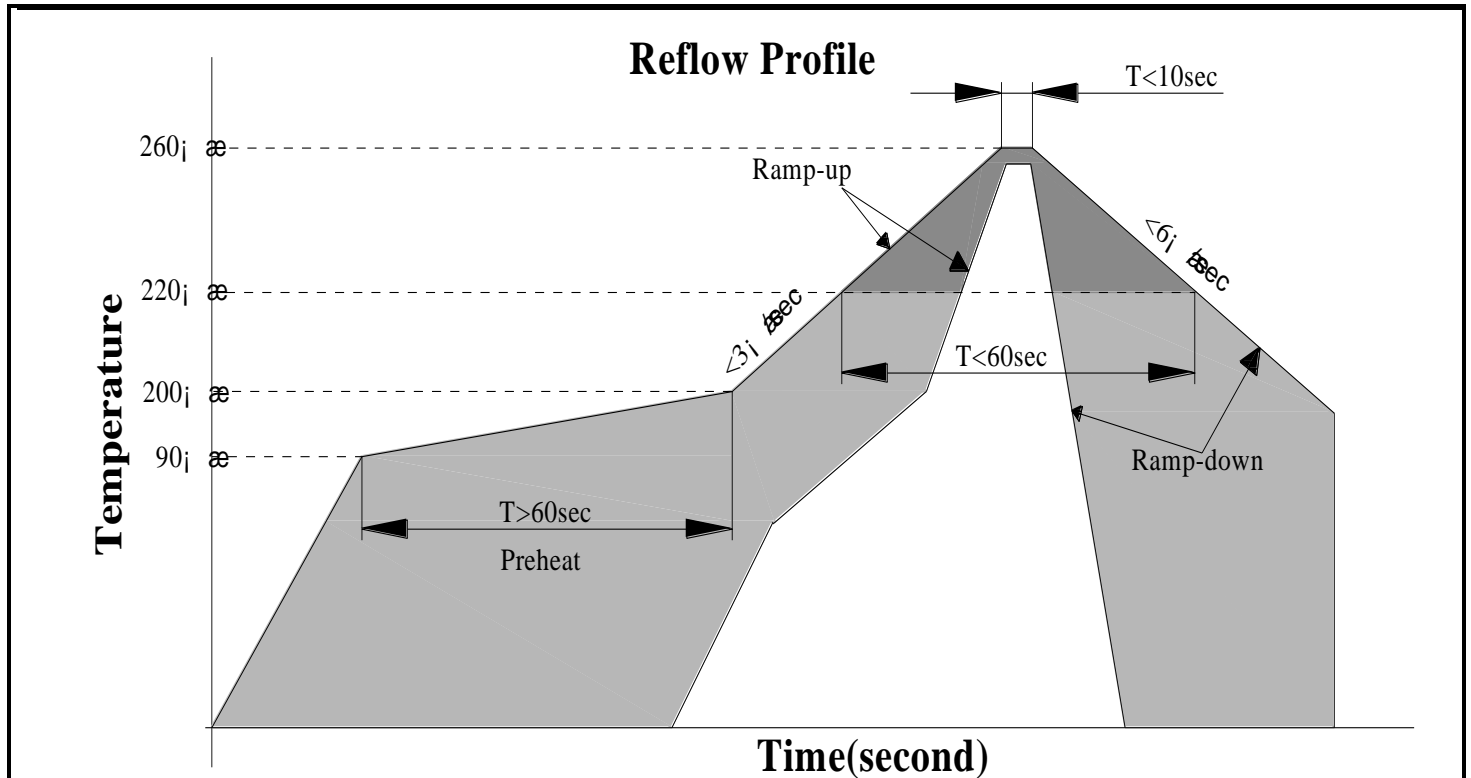
Group Name on Label (Example DATA: □Jm fQH 20)

DATA: □Jm fQH 20	Vf(V)	Iv (mcd)	λd (nm)	Test Condition
Yellow □ → B1 → Y1 → 20	1.8~2.4	100~140	585~590	IF=20mA
Green f → B1 → G1 → 20	2.8~3.1	400~56	520~525	

Precautions(使用注意事項)

1、Requirements for application and reflow soldering:

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 手工焊接:

- 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



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24 hours. It is recommended that the product be operated at the workshop condition of 30°C or less and humidity less than 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 Ag₂S 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.