

# 德清佳和电子科技有限公司

DEQING JIAHE ELECTRONIC TECHNOLOGY CO., LTD.

## DATA SHEET/产品规格书

Customer/客戶名稱：

Customer Part NO./客戶料號：

Product Name. 品名：Ø3透明白发绿有边普亮L=26/28mm

Part NO./產品料號：JL-R302G40C4B26P-206

SPEC. NO./規格書编号：DS-30-15-0158

DATE/發行日期：2017/6/27

SAMPLE.NO./样品编号：20170623-02

REV./版本：A.0

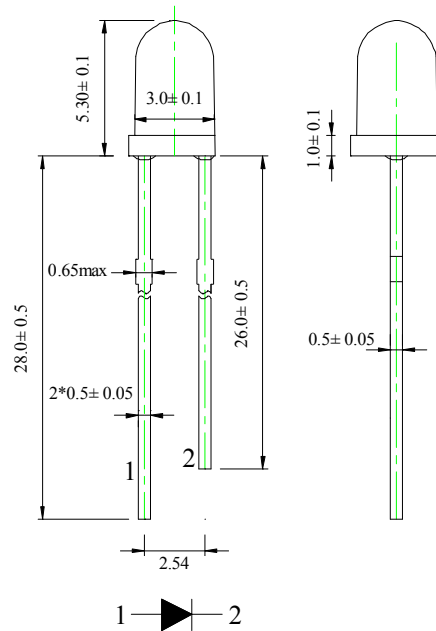
Confirmation/出廠確認：			
Tabulation	Tested By	Checked By	Approved By
制表	檢 查	审 核	批 準
谢佳艺			

Customer Confirmation/客戶確認：		
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## Package Dimensions/ 产品外形尺寸



Part No. 型號	Lens Color 膠體顏色	Emitting Color 發光顏色	Lens Material 膠體材質	Dice Material 芯片材質
JL-R302G40C4B26P-206	WATER CLEAR 无色透明	GREEN 绿色	Epoxy Resin 環氧樹脂	GaASP/GaP

### Notes/注释:

- All dimensions are in millimeters/单位：mm.
- Tolerance is  $\pm 0.10 \text{ mm}$  unless otherwise noted/没有标注的公差均为 $\pm 0.10 \text{ mm}$ .
- 镀亮锡 $\geq 80 \text{ u}$ 。

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## Feature/產品特性

- ◆ Pb free product - RoHS compliant/无铅产品—符合RoHS 标准
- ◆ GREEN/绿光
- ◆ Low power consumption, High efficiency/低功耗、高效率
- ◆ Reliable and rugged/可靠性好、坚固
- ◆ Long life - solid state reliability/长寿命—固态光源

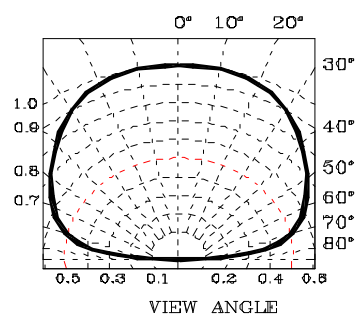
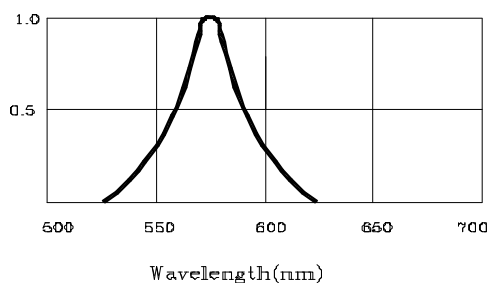
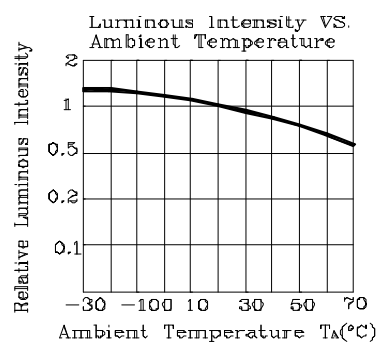
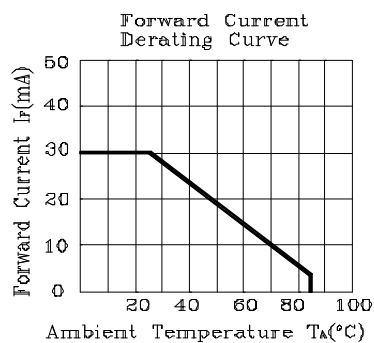
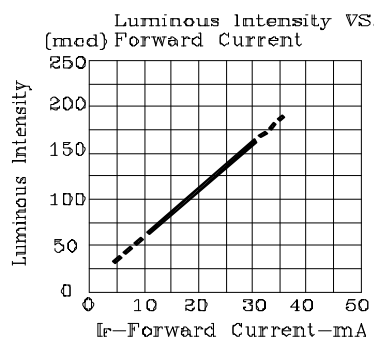
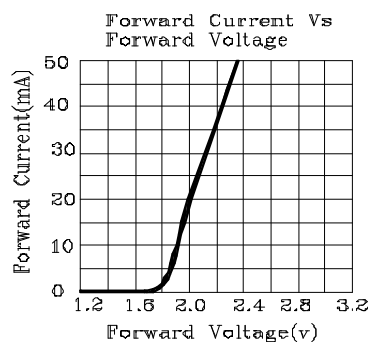
## Absolute Maximum Ratings/极限参数 (Ta=25°C)

Item/项目	Max./最大值	Unit/單位
Power Dissipation/功耗	60	mW
Peak Forward Current/正向峰值电流 (Pulse Width $\leq 0.1\text{msec}$ , Duty Cycle $\leq 1/10$ ) [脉冲宽度 $\leq 0.1\text{msec}$ ，占空比 $\leq 1/10$ ]	100	mA
Forward Current/正向电流	20	mA
Reverse Voltage/反向电压	5	V
Operating Temperature Range/工作温度	-40°C to +85°C	
Storage Temperature Range/储存温度	-40°C to +85°C	
Lead Soldering Temperature/支架焊接温度 [2mm From Body]/距离胶体2mm	260°C for 5 seconds	

## Electrical Optical Characteristics/產品光電特性 (Ta=25°C)

Parameter 參數	Symbo 符號	Min. 最小值	TYP. 典型值	Max. 最大值	Unit 單位	Test Condition 測試條件
Luminous Intensity 发光强度	IV	90	110	150	mcd	IF=20mA
Dominant Wavelength 主波长	$\lambda_d$	570	572	575	nm	IF=20mA
Forward Voltage 正向電壓	VF	1.8	2.2	2.4	V	IF=20mA
Spectral Line Half-Width 半波长宽度	$\Delta\lambda$	/	25	/	nm	IF=20mA
Viewing Angle 发光角度	$2\theta_{1/2}$	/	120	/	Deg.	IF=20mA
Reverse Current 反向電流	IR	0	0	10	uA	VR=5V

# Typical Electrical / Optical Characteristics Curves/光電特性曲綫



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## CAUTIONS/注意事項

### Storage/儲存

1. Environmental temperature:  $-40^{\circ}\text{C} \sim 85^{\circ}\text{C}$ , Recommended:  $-20^{\circ}\text{C} \sim 50^{\circ}\text{C}$ .  
环境温度： $-40^{\circ}\text{C} \sim 85^{\circ}\text{C}$ ，推荐使用： $-20^{\circ}\text{C} \sim 50^{\circ}\text{C}$ 。
2. Environmental humidity: 30%~70%, Recommended: 40%~60%.  
环境湿度：30%~70%，推荐使用：40%~60%。
3. It is recommended that the LEDs be stored in a sealed container with appropriate desiccant or in desiccators with nitrogen ambient.  
推荐密封无氧保存。

### Lead Forming/支架成形

1. Lead forming must be done before soldering, at normal temperature.  
支架成形必须在焊接前完成（常温下）。
2. The leads recommen to be bent at a point at least 1.5 mm from the base of LED lens.  
建議离LED 胶体1.5 毫米才能弯折支架。
3. Avoid bending the leads at the same point more than once as much as possible.  
儘量避免在引脚同一位置两次或多次弯折。

### Electric Static Discharge(ESD) Protection/ 静电放电防护

1. ESD or voltage surge will damage the LED.  
静电放电或电压浪涌将损害LED。
2. It is recommended that a wrist band or anti-electrostatic glove be used when handling the LEDs.  
使用LED 时建议佩戴静电环或静电手套。
3. All production machinery and test instruments must be electrically grounded.  
所有的生产机器和检测仪器必须接地。
4. Maintain a humidity level of 50% or higher in production areas.  
生产现场湿度必须保持在50%或更高。
5. Use anti-static packaging for transport and storage.  
运输和储存使用防静电包装。

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## CAUTIONS/注意事項

### LED成品使用说明书

### LED product manual

为了客户能更好的使用我司产品，特提供此份清晰易理解的参考资料。

For customers to make better use of our products, special offers clear and easy to understand this part of the reference.

#### 一、储存Store

为了防潮，LED要存放在干燥通风的环境中，当LED防潮包装开封后，应尽快使用。具体储存条件见我司的样品（承认书）。

For proof, LED should be stored in dry and ventilated environment, moisture-proof packaging after opening when the LED should be used as soon as possible. Specific storage conditions see samples of Division I (acknowledgment).

#### 二、清洁Clean

不要使用汽油（含硫化物）等腐蚀性的化学液体清洗LED，因为那样可能会损坏LED灯体表面，甚至引起胶体裂缝，同时还会对LED的灯脚腐蚀生锈。如确实要清洗，可用无水酒精清洁，然后要在室温下把LED干燥15分钟，方可正常使用。

Do not use gasoline (including sulfides) and other corrosive chemical liquid to clean LED, because that might damage the surface of the LED, and even cause colloidal cracks, while also LED lights on foot rust corrosion. If you really want to clean, available anhydrous alcohol to clean, then you want the LED and dried at room temperature for 15 minutes before normal use.

#### 三、LED安装LED Installation

(1) LED不可与发热元件靠得太近，工作条件不要超过其规定的极限。

LED should not be too close to the heating element, the working conditions do not exceed the limits of its provisions.

(2) 不要在引脚变形的情况下安装LED。

Do not install LED in the case of pin deformation.

(3) 当决定在空中安装时，计算好面孔及线路板上孔距的尺寸和公差以免灯脚受过大的压力。

When deciding to install in the air, face and line pitch calculate board feet dimensions and tolerances in order to avoid light received pressure.

(4) 当焊接温度回到常温以前须避免LED灯体收到任何外力作用，以免损伤LED里面的金线。

When the temperature returns to normal temperature before welding to avoid any LED lamp body received any external force, so as not to damage the inside of the gold wire LED.

(5) 剪脚时，为了保护成形的灯脚要使用专用手钳，以免挤压树脂。严禁用手钳夹LED灯体作业。

when the shear pin, in order to protect the foot shaped lamps use a special pliers to avoid squeezing resin. LED lights do not touch the clamp body operations.

#### 四、焊接Welding

(1) LED灯脚下的焊槽要清除干净，焊接过程中要用镊子钳住引脚，小型的LED更要特别注意。

LED lights at the foot of the solder bath to be cleaned, the welding process to pin vise tweezers, small LED also to pay special attention.

(2) 焊接过程中不能向LED灯体施加任何压力，以免LED内部出现裂纹。

the welding process can not exert any pressure on the LED light body, so LED internal cracks.

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## CAUTIONS/注意事項

(3) 当LED焊接到PCB上时, 位置应当对准, 这样可避免对LED金线产生内应力, 否则这个内应力就会在高温使用中引发问题, 焊接完成后, 有必要用三分钟的时间让LED从高温状态回到常温下。

When the LED is soldered onto the PCB, the position should be aligned so that the gold wire to the LED to avoid internal stress, the stress would otherwise cause problems in the use at high temperatures, the welding is completed, it is necessary to use three minutes time for LED back from a high temperature state at room temperature.

(4) 如果用烙铁焊接同一PCB上线性排列的LED, 不可同时焊接同一LED的两个灯脚。

If the LED PCB soldering iron of the same linear array, not both simultaneously welded in the same LED lamp pins.

(5) 烙铁焊接: 烙铁(最高30W)尖端温度不超过260℃, 焊接时间不超过3秒, 焊接位置至少离胶体5毫米。  
soldering iron: iron (up to 30W) tip temperature does not exceed 260 °C, soldering time is not more than 3 seconds, the welding position for at least 5 mm from the gel.

### 五、预防冲击电流和电压The impact of current and voltage prevention

(1) LED使用过程中请参考我滴的样品承认书作业, 不能有过电流现象。

LED use process please refer to my book drop of the sample admitted that the job can not be over-current phenomenon.

(2) 为了在稳定条件下使用LED, 应把它和保护电阻串联起来, 电阻值根据所提供LED的限电压或限电流值而定, 适宜的正向电流IF范围为10-20mA。

stable to the conditions used in the LED, and it should protect the resistor in series, the resistance value of the threshold voltage of the LED according to a current value or limit may be provided, a suitable range of the forward current IF of 10-20mA.

(3) 瞬间的脉冲电流或电压会破坏LED内部固定连接, 所以电路必须仔细设计, 这样在线路开启闭合时, LED不会受到过流(过压)冲击。

current or voltage pulse instantaneous connection will destroy the LED internally fixed, so the circuit must be carefully designed so that when opening or closing the line, LED will not be over-current (over-voltage) shocks.

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## 六、防静电Antistatic

LED（特别是蓝、绿、白光LED）对静电是很敏感的，所以必须避免静电对LED的损伤。设法加速电荷的逸散泄漏，防止静电电荷的产生。

LED (especially blue, green, white LED) is very sensitive to static electricity, so you must avoid electrostatic damage to the LED. Trying to accelerated charge fugitive leaks, prevent static charge generation.

### (1) LED使用环境防静电措施LED ambient anti-static measures

铺设防静电地板，且有接地系统，LED应该在防静电工作台上操作，且在离之风机的有效范围之内（一般不超过60cm）。工作区域内的湿度最好控制在50%-60%。

Anti-static floor, and a grounding system, LED antistatic work surface should be in operation, and within the effective range of the fan from the (generally not exceed 60cm). Humidity in the work area is best controlled at 50% -60%.

### (2) LED使用时，防静电措施When using LED, anti-static measures

焊接用的烙铁（最好用直式恒温烙铁）和测试仪器都需接地。在操作前要先用手接触防静电工作台或金属接地，然后再进行操作。直接接触LED的人员需要佩戴防静电手环，不要做易于产生静电的动作，如搓手、穿和脱工作服等。

Welding of iron (preferably with straight heated iron) and test equipment are required to be grounded. Before the operation first hand contact with anti-static workbench or metal ground, and then to operate. Direct contact with the LED's need to wear an antistatic wrist strap, do not do prone to static movements, such as hand-wringing, wearing overalls and off.

## 七、亮度Brightness

(1) 要获得均匀的亮度，同批量的LED应使用相同的电流，不用批次的LED不可以混用，以免造成亮度差异。

To obtain uniform brightness, LED same batch should use the same current, do not mix batches of LED, in order to avoid differences in brightness.

(2) 目测检验时，眼睛到LED保持30cm的距离。

visual inspection, the eye to maintain a distance of 30cm LED.

## 八、其他Other

高亮的LED能量是非常强大的，会伤害人的眼睛，所以应避免眼睛长时间盯在正在发亮的LED灯上。

Highlight LED energy is very powerful, it will hurt people's eyes, the eyes should be avoided so long stare at the LED lamp is lit.

LED包装一旦打开，请在24小时内使用完，如暂时无法在此时间内用完，请对开封材料封口并干燥保存，请注意贮存地点的环境。

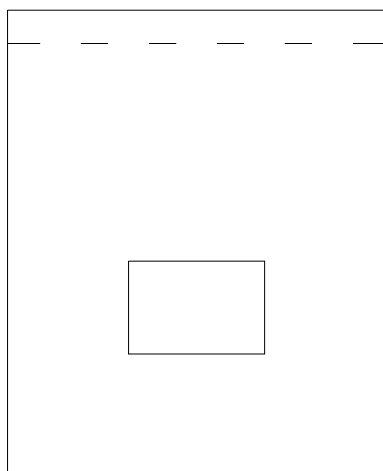
LED packaging Once opened, use within 24 hours of completion, such as temporarily unavailable during this time has run out for the opening sealed and stored dry material, please pay attention to environmental storage locations.



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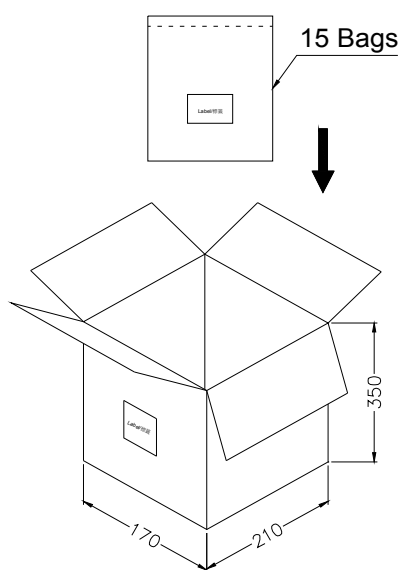
DEQING JIAHE ELECTRONIC TECHNOLOGY CO., LTD.

## Packaging Specification/包裝規格

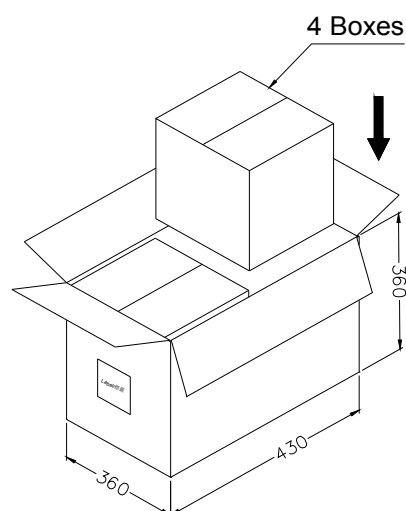


Antistatic Bag  
防静电袋

廠商名、商標等	
產品型料號	
品名:	
客戶料號	QC蓋章
生产单号:	
客戶訂單號	
亮度(cand): 波長(nm):	
電壓(v):	
數量(PCS): 檢驗員:	
生產日期:	



Inner carton/內箱



Outer carton/外箱

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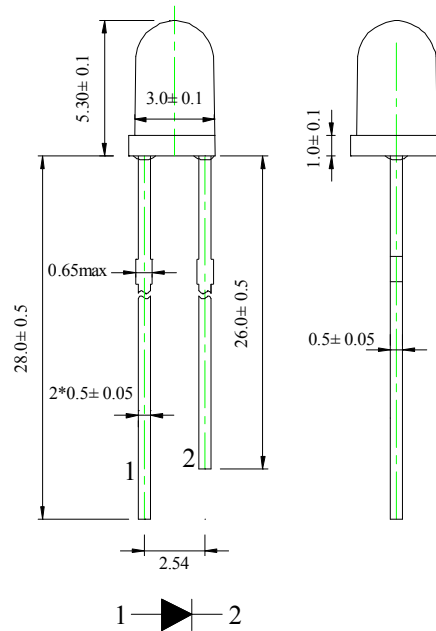
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JL-R302G30D4B26P-207	GREEN 綠色 霧狀	GREEN 綠色	Epoxy Resin 環氧樹脂	GaASP/GaP

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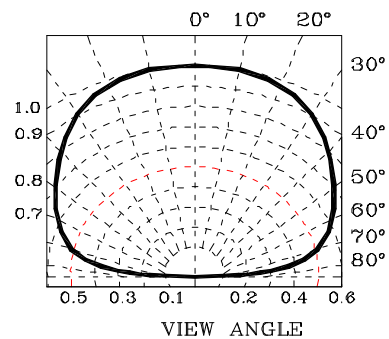
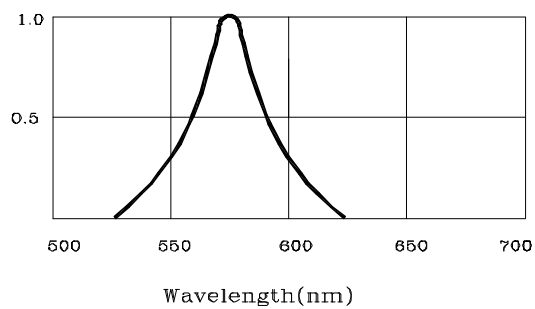
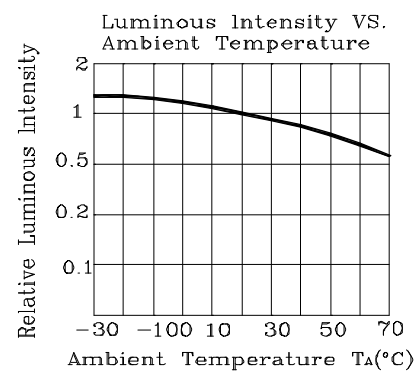
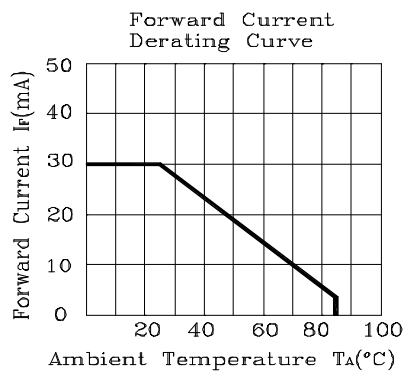
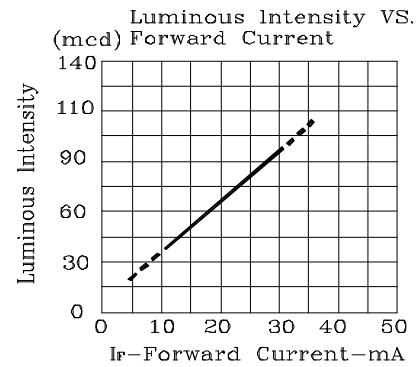
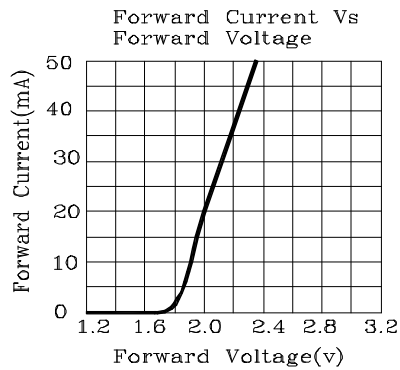
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Operating Temperature Range/工作温度	-40°C to +85°C	
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Forward Voltage 正向電壓	VF	1.8	2.2	2.4	V	IF=20mA
Spectral Line Half-Width 半波长宽度	$\Delta \lambda$	/	25	/	nm	IF=20mA
Viewing Angle 发光角度	$2\theta_{1/2}$	/	120	/	Deg.	IF=20mA
Reverse Current 反向電流	IR	0	0	10	uA	VR=5V

Typical Electrical / Optical Characteristics Curves/光電特性曲綫



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生产现场湿度必须保持在50%或更高。
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# 德清佳和电子科技有限公司

DEQING JIAHE ELECTRONIC TECHNOLOGY CO., LTD.

## CAUTIONS/注意事項

### LED成品使用说明书

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## 六、防静电Antistatic

LED（特别是蓝、绿、白光LED）对静电是很敏感的，所以必须避免静电对LED的损伤。设法加速电荷的逸散泄漏，防止静电电荷的产生。

LED (especially blue, green, white LED) is very sensitive to static electricity, so you must avoid electrostatic damage to the LED. Trying to accelerated charge fugitive leaks, prevent static charge generation.

### (1) LED使用环境防静电措施LED ambient anti-static measures

铺设防静电地板，且有接地系统，LED应该在防静电工作台面上操作，且在离之风机的有效范围之内（一般不超过60cm）。工作区域内的湿度最好控制在50%-60%。

Anti-static floor, and a grounding system, LED antistatic work surface should be in operation, and within the effective range of the fan from the (generally not exceed 60cm). Humidity in the work area is best controlled at 50% -60%.

### (2) LED使用时，防静电措施When using LED, anti-static measures

焊接用的烙铁（最好用直式恒温烙铁）和测试仪器都需接地。在操作前要先用手接触防静电工作台或金属接地，然后再进行操作。直接接触LED的人员需要佩戴防静电手环，不要做易于产生静电的动作，如搓手、穿和脱工作服等。

Welding of iron (preferably with straight heated iron) and test equipment are required to be grounded. Before the operation first hand contact with anti-static workbench or metal ground, and then to operate. Direct contact with the LED's need to wear an antistatic wrist strap, do not do prone to static movements, such as hand-wringing, wearing overalls and off.

## 七、亮度Brightness

(1) 要获得均匀的亮度，同批量的LED应使用相同的电流，不用批次的LED不可以混用，以免造成亮度差异。

To obtain uniform brightness, LED same batch should use the same current, do not mix batches of LED, in order to avoid differences in brightness.

(2) 目测检验时，眼睛到LED保持30cm的距离。

visual inspection, the eye to maintain a distance of 30cm LED.

## 八、其他Other

高亮的LED能量是非常强大的，会伤害人的眼睛，所以应避免眼睛长时间盯在正在发亮的LED灯上。

Highlight LED energy is very powerful, it will hurt people's eyes, the eyes should be avoided so long stare at the LED lamp is lit.

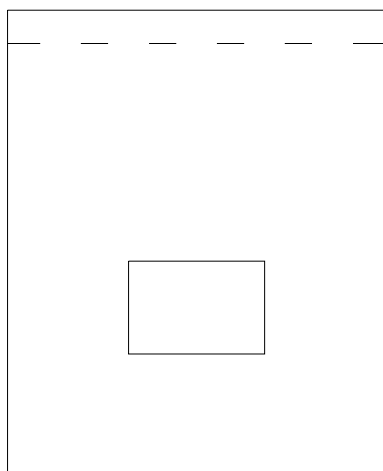
LED包装一旦打开，请在24小时内使用完，如暂时无法在此时间内用完，请对开封材料封口并干燥保存，请注意贮存地点的环境。

LED packaging Once opened, use within 24 hours of completion, such as temporarily unavailable during this time has run out for the opening sealed and stored dry material, please pay attention to environmental storage locations.

# 德清佳和电子科技有限公司

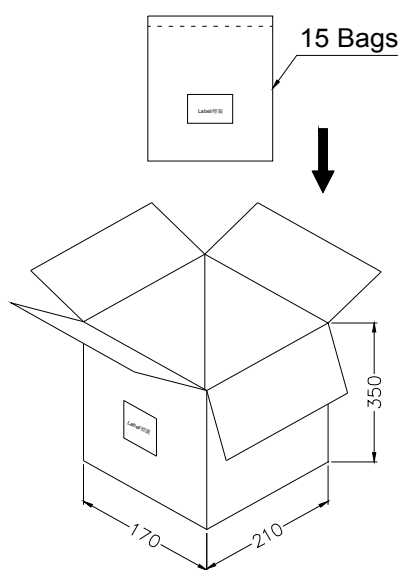
DEQING JIAHE ELECTRONIC TECHNOLOGY CO., LTD.

## Packaging Specification/包裝規格

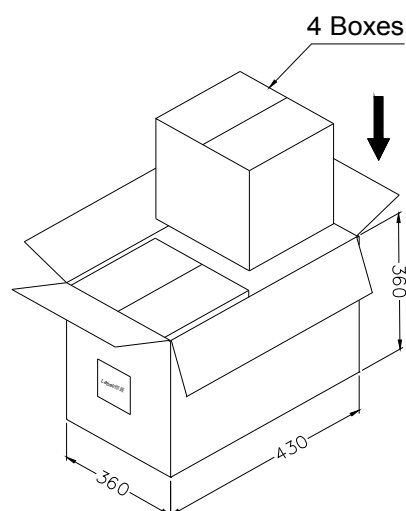


Antistatic Bag  
防静电袋

廠商名、商標等	
產品型料號	
品名:	
客戶料號	QC蓋章
生产单号:	
客戶訂單號	
亮度(cand):      波長(nm):	
電壓(v):	
數量(PCS):      檢驗員:	
生產日期:	



Inner carton/內箱



Outer carton/外箱

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## DATA SHEET/产品规格书

Customer/客戶名稱：

Customer Part NO./客戶料號：

Product Name. 品名：Φ3红雾红光普亮L=26/28mm

Part NO./產品料號：JL-R302R40D4B26P-053

SPEC. NO./規格書编号：DS-30-15-0161

DATE/發行日期：2017/6/27

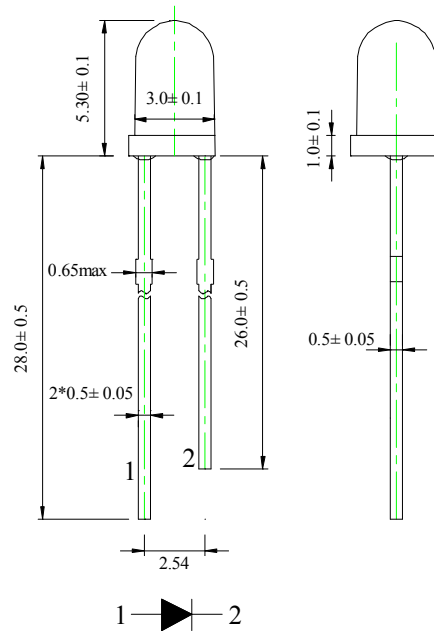
SAMPLE.NO./样品编号：20170623-05

REV./版本：A.0

Confirmation/出廠確認：			
Tabulation	Tested By	Checked By	Approved By
制表	檢 查	审 核	批 準
谢佳艺			

Customer Confirmation/客戶確認：		
Tested By	Checked By	Approved By
檢 查	审 核	批 準

## Package Dimensions/产品外形尺寸



Part No. 型號	Lens Color 膠體顏色	Emitting Color 發光顏色	Lens Material 膠體材質	Dice Material 芯片材質
JL-R302R40D4B26P-053	REDDIFFUSED 红色雾状	RED 红色	Epoxy Resin 環氧樹脂	GaASP/GaP

### Notes/注释:

- All dimensions are in millimeters/单位：mm.
- Tolerance is  $\pm 0.10 \text{ mm}$  unless otherwise noted/没有标注的公差均为 $\pm 0.10 \text{ mm}$ .
- 镀亮锡 $\geq 80 \text{ u}$ 。

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## Feature/產品特性

- ◆ Pb free product - RoHS compliant/无铅产品—符合RoHS 标准
- ◆ RED/红色
- ◆ Low power consumption, High efficiency/低功耗、高效率
- ◆ Reliable and rugged/可靠性好、坚固
- ◆ Long life - solid state reliability/长寿命—固态光源

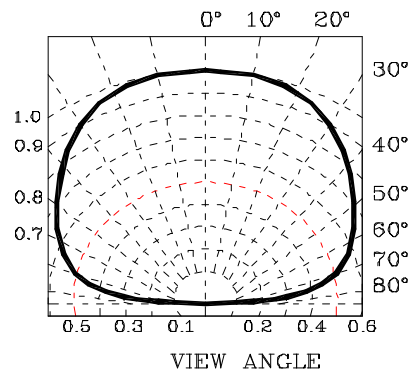
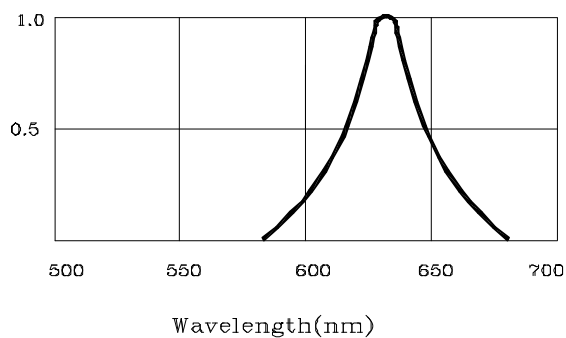
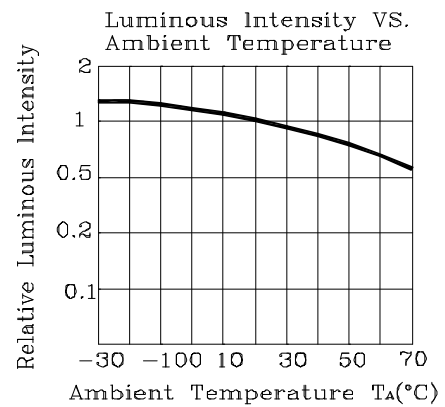
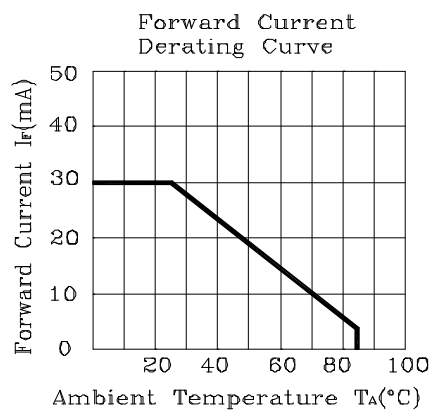
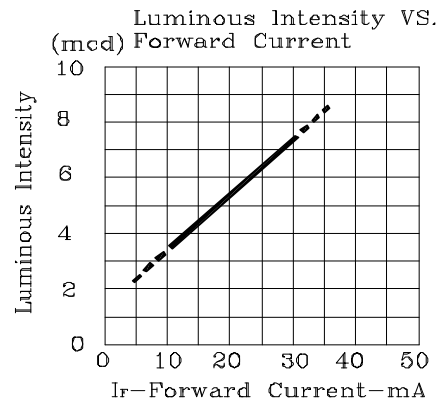
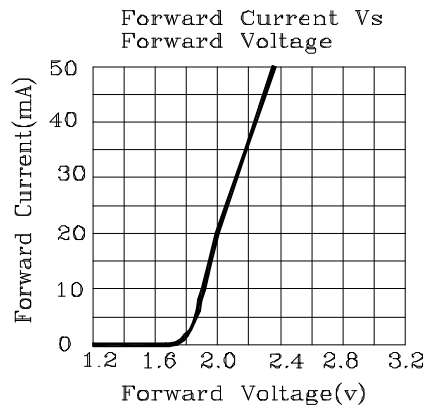
## Absolute Maximum Ratings/极限参数 (Ta=25°C)

Item/项目	Max./最大值	Unit/單位
Power Dissipation/功耗	60	mW
Peak Forward Current/正向峰值电流 (Pulse Width $\leq 0.1\text{msec}$ , Duty Cycle $\leq 1/10$ ) [脉冲宽度 $\leq 0.1\text{msec}$ ，占空比 $\leq 1/10$ ]	100	mA
Forward Current/正向电流	20	mA
Reverse Voltage/反向电压	5	V
Operating Temperature Range/工作温度	$-40^{\circ}\text{C}$ to $+85^{\circ}\text{C}$	
Storage Temperature Range/储存温度	$-40^{\circ}\text{C}$ to $+85^{\circ}\text{C}$	
Lead Soldering Temperature/支架焊接温度 [2mm From Body]/距离胶体2mm	260°C for 5 seconds	

## Electrical Optical Characteristics/產品光電特性 (Ta=25°C)

Parameter 參數	Symbo 符號	Min. 最小值	TYP. 典型值	Max. 最大值	Unit 單位	Test Condition 測試條件
Luminous Intensity 发光强度	IV	2	5	15	mcd	IF=20mA
Dominant Wavelength 主波长	$\lambda_d$	635	640	645	nm	IF=20mA
Forward Voltage 正向電壓	VF	1.8	2.2	2.4	V	IF=20mA
Spectral Line Half-Width 半波长宽度	$\Delta\lambda$	/	25	/	nm	IF=20mA
Viewing Angle 发光角度	$2\theta_{1/2}$	/	120	/	Deg.	IF=20mA
Reverse Current 反向電流	IR	0	0	10	uA	VR=5V

Typical Electrical / Optical Characteristics Curves/光電特性曲綫



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### Storage/儲存

1. Environmental temperature:  $-40^{\circ}\text{C} \sim 85^{\circ}\text{C}$ , Recommended:  $-20^{\circ}\text{C} \sim 50^{\circ}\text{C}$ .  
环境温度： $-40^{\circ}\text{C} \sim 85^{\circ}\text{C}$ ，推荐使用： $-20^{\circ}\text{C} \sim 50^{\circ}\text{C}$ 。
2. Environmental humidity: 30%~70%, Recommended: 40%~60%.  
环境湿度：30%~70%，推荐使用：40%~60%。
3. It is recommended that the LEDs be stored in a sealed container with appropriate desiccant or in desiccators with nitrogen ambient.  
推荐密封无氧保存。

### Lead Forming/支架成形

1. Lead forming must be done before soldering, at normal temperature.  
支架成形必须在焊接前完成（常温下）。
2. The leads recommen to be bent at a point at least 1.5 mm from the base of LED lens.  
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DEQING JIAHE ELECTRONIC TECHNOLOGY CO., LTD.

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LED（特别是蓝、绿、白光LED）对静电是很敏感的，所以必须避免静电对LED的损伤。设法加速电荷的逸散泄漏，防止静电电荷的产生。

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铺设防静电地板，且有接地系统，LED应该在防静电工作台面上操作，且在离之风机的有效范围之内（一般不超过60cm）。工作区域内的湿度最好控制在50%-60%。

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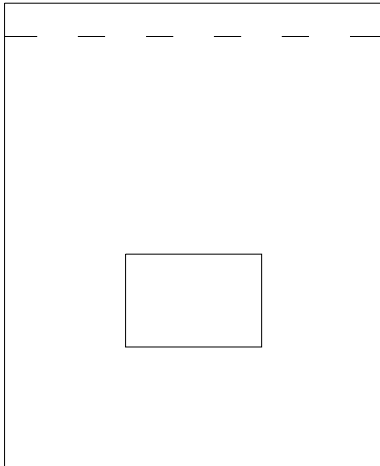
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LED packaging Once opened, use within 24 hours of completion, such as temporarily unavailable during this time has run out for the opening sealed and stored dry material, please pay attention to environmental storage locations.

# 德清佳和电子科技有限公司

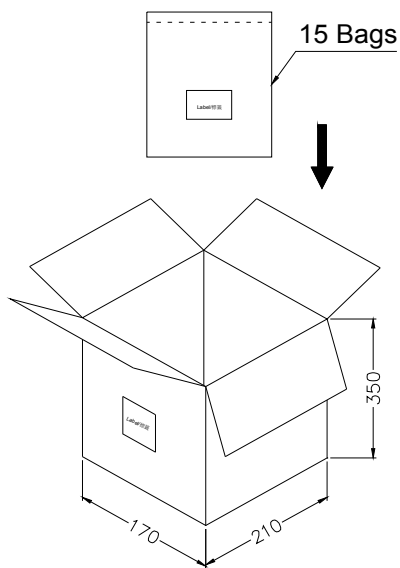
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## Packaging Specification/包裝規格

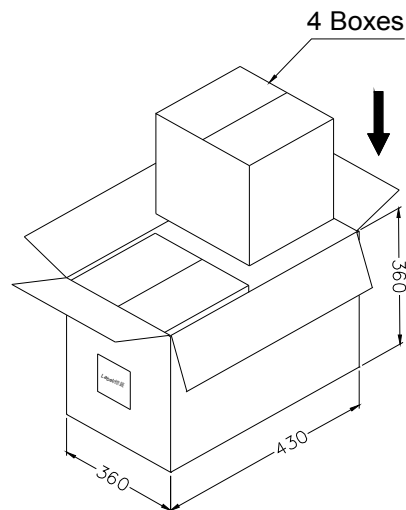


Antistatic Bag  
防静电袋

廠商名、商標等	
產品型料號	
品名:	
客戶料號	QC蓋章
生产单号:	
客戶訂單號	
亮度(cand):      波長(nm):	
電壓(v):	
數量(PCS):      檢驗員:	
生產日期:	



Inner carton/內箱



Outer carton/外箱

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## DATA SHEET/产品规格书

Customer/客戶名稱：

Customer Part NO./客戶料號：

Product Name. 品名：Ø3透明白发红有边高亮L=26/28mm

Part NO./產品料號： JL-R302R40C4B26T-054

SPEC. NO./規格書编号： DS-30-15-0158

DATE/發行日期： 2017/6/27

SAMPLE.NO./样品编号： 20170623-02

REV./版本： A.0

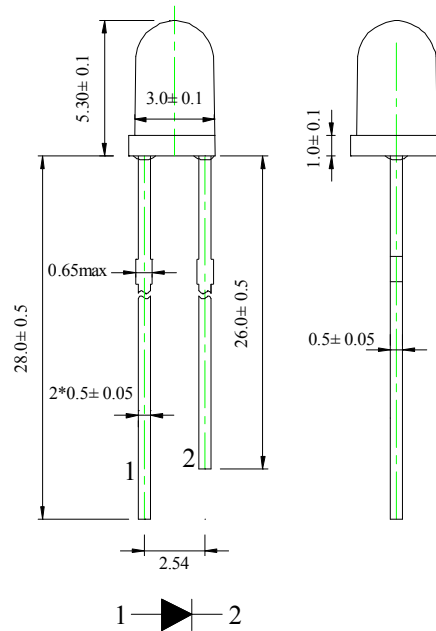
Confirmation/出廠確認：			
Tabulation	Tested By	Checked By	Approved By
制表	檢 查	审 核	批 準
谢佳艺			

Customer Confirmation/客戶確認：		
Tested By	Checked By	Approved By
檢 查	审 核	批 準

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## Package Dimensions/ 产品外形尺寸



Part No. 型號	Lens Color 膠體顏色	Emitting Color 發光顏色	Lens Material 膠體材質	Dice Material 芯片材質
JL-R302R40C4B26T-054	WATER CLEAR 无色透明	RED 红光	Epoxy Resin 環氧樹脂	GaASP/GaP

### Notes/注释:

- All dimensions are in millimeters/单位：mm.
- Tolerance is  $\pm 0.10 \text{ mm}$  unless otherwise noted/没有标注的公差均为 $\pm 0.10 \text{ mm}$ .
- 镀亮锡 $\geq 80 \text{ u}$ 。

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## Feature/產品特性

- ◆ Pb free product - RoHS compliant/无铅产品—符合RoHS 标准
- ◆ RED/红色
- ◆ Low power consumption, High efficiency/低功耗、高效率
- ◆ Reliable and rugged/可靠性好、坚固
- ◆ Long life - solid state reliability/长寿命—固态光源

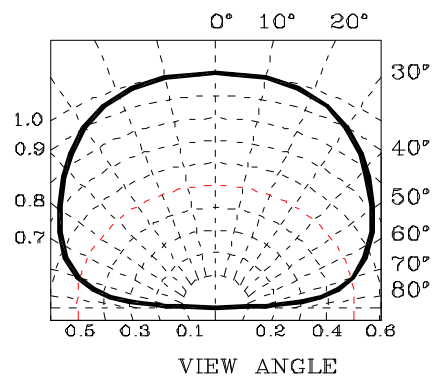
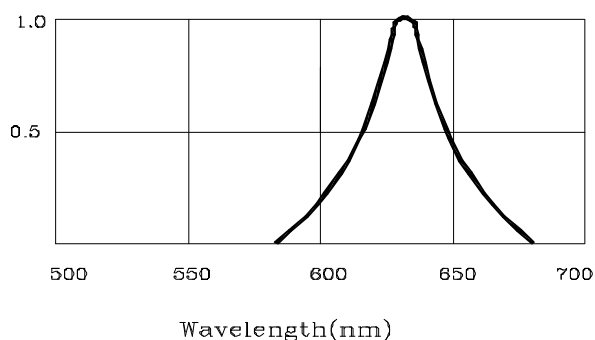
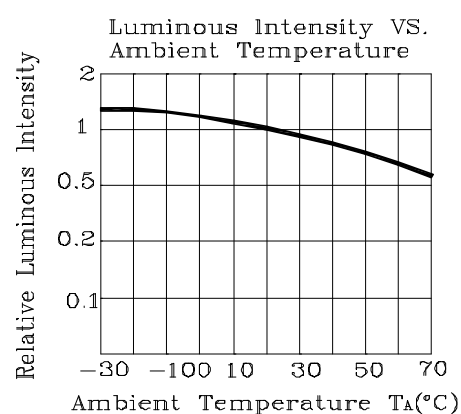
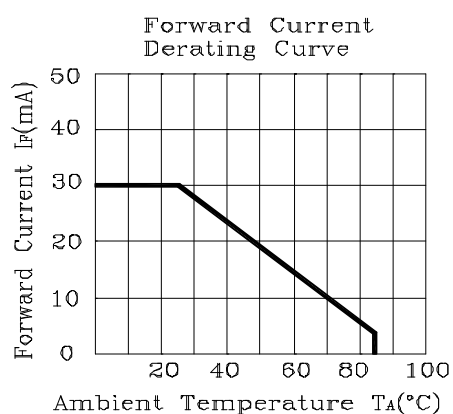
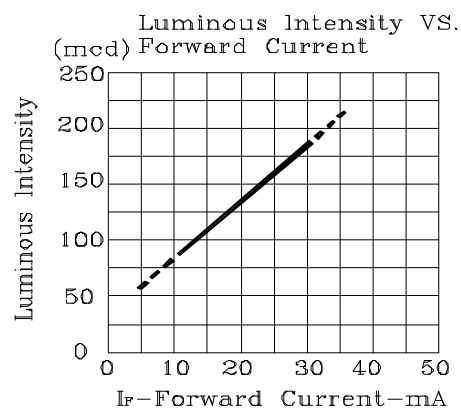
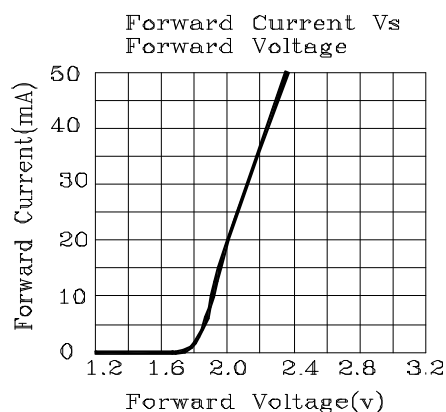
## Absolute Maximum Ratings/极限参数 (Ta=25°C)

Item/项目	Max./最大值	Unit/單位
Power Dissipation/功耗	60	mW
Peak Forward Current/正向峰值电流 (Pulse Width $\leq 0.1\text{msec}$ , Duty Cycle $\leq 1/10$ ) [脉冲宽度 $\leq 0.1\text{msec}$ ，占空比 $\leq 1/10$ ]	100	mA
Forward Current/正向电流	20	mA
Reverse Voltage/反向电压	5	V
Operating Temperature Range/工作温度	-40°C to +85°C	
Storage Temperature Range/储存温度	-40°C to +85°C	
Lead Soldering Temperature/支架焊接温度 [2mm From Body]/距离胶体2mm	260°C for 5 seconds	

## Electrical Optical Characteristics/產品光電特性 (Ta=25°C)

Parameter 參數	Symbo 符號	Min. 最小值	TYP. 典型值	Max. 最大值	Unit 單位	Test Condition 測試條件
Luminous Intensity 发光强度	IV	100	140	200	mcd	IF=20mA
Dominant Wavelength 主波长	$\lambda_d$	635	637	640	nm	IF=20mA
Forward Voltage 正向電壓	VF	1.8	2.2	2.4	V	IF=20mA
Spectral Line Half-Width 半波长宽度	$\Delta\lambda$	/	25	/	nm	IF=20mA
Viewing Angle 发光角度	$2\theta_{1/2}$	/	120	/	Deg.	IF=20mA
Reverse Current 反向電流	IR	0	0	10	uA	VR=5V

# Typical Electrical / Optical Characteristics Curves/光電特性曲綫



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## CAUTIONS/注意事項

### Storage/儲存

1. Environmental temperature:  $-40^{\circ}\text{C} \sim 85^{\circ}\text{C}$ , Recommended:  $-20^{\circ}\text{C} \sim 50^{\circ}\text{C}$ .  
环境温度： $-40^{\circ}\text{C} \sim 85^{\circ}\text{C}$ ，推荐使用： $-20^{\circ}\text{C} \sim 50^{\circ}\text{C}$ 。
2. Environmental humidity: 30%~70%, Recommended: 40%~60%.  
环境湿度：30%~70%，推荐使用：40%~60%。
3. It is recommended that the LEDs be stored in a sealed container with appropriate desiccant or in desiccators with nitrogen ambient.  
推荐密封无氧保存。

### Lead Forming/支架成形

1. Lead forming must be done before soldering, at normal temperature.  
支架成形必须在焊接前完成（常温下）。
2. The leads recommen to be bent at a point at least 1.5 mm from the base of LED lens.  
建議离LED 胶体1.5 毫米才能弯折支架。
3. Avoid bending the leads at the same point more than once as much as possible.  
儘量避免在引脚同一位置两次或多次弯折。

### Electric Static Discharge(ESD) Protection/ 静电放电防护

1. ESD or voltage surge will damage the LED.  
静电放电或电压浪涌将损害LED。
2. It is recommended that a wrist band or anti-electrostatic glove be used when handling the LEDs.  
使用LED 时建议佩戴静电环或静电手套。
3. All production machinery and test instruments must be electrically grounded.  
所有的生产机器和检测仪器必须接地。
4. Maintain a humidity level of 50% or higher in production areas.  
生产现场湿度必须保持在50%或更高。
5. Use anti-static packaging for transport and storage.  
运输和储存使用防静电包装。



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## CAUTIONS/注意事項

### LED成品使用说明书

### LED product manual

为了客户能更好的使用我司产品，特提供此份清晰易理解的参考资料。

For customers to make better use of our products, special offers clear and easy to understand this part of the reference.

#### 一、储存Store

为了防潮，LED要存放在干燥通风的环境中，当LED防潮包装开封后，应尽快使用。具体储存条件见我司的样品（承认书）。

For proof, LED should be stored in dry and ventilated environment, moisture-proof packaging after opening when the LED should be used as soon as possible. Specific storage conditions see samples of Division I (acknowledgment).

#### 二、清洁Clean

不要使用汽油（含硫化物）等腐蚀性的化学液体清洗LED，因为那样可能会损坏LED灯体表面，甚至引起胶体裂缝，同时还会对LED的灯脚腐蚀生锈。如确实要清洗，可用无水酒精清洁，然后要在室温下把LED干燥15分钟，方可正常使用。

Do not use gasoline (including sulfides) and other corrosive chemical liquid to clean LED, because that might damage the surface of the LED, and even cause colloidal cracks, while also LED lights on foot rust corrosion. If you really want to clean, available anhydrous alcohol to clean, then you want the LED and dried at room temperature for 15 minutes before normal use.

#### 三、LED安装LED Installation

(1) LED不可与发热元件靠得太近，工作条件不要超过其规定的极限。

LED should not be too close to the heating element, the working conditions do not exceed the limits of its provisions.

(2) 不要在引脚变形的情况下安装LED。

Do not install LED in the case of pin deformation.

(3) 当决定在空中安装时，计算好面孔及线路板上孔距的尺寸和公差以免灯脚受过大的压力。

When deciding to install in the air, face and line pitch calculate board feet dimensions and tolerances in order to avoid light received pressure.

(4) 当焊接温度回到常温以前须避免LED灯体收到任何外力作用，以免损伤LED里面的金线。

When the temperature returns to normal temperature before welding to avoid any LED lamp body received any external force, so as not to damage the inside of the gold wire LED.

(5) 剪脚时，为了保护成形的灯脚要使用专用手钳，以免挤压树脂。严禁用手钳夹LED灯体作业。

when the shear pin, in order to protect the foot shaped lamps use a special pliers to avoid squeezing resin. LED lights do not touch the clamp body operations.

#### 四、焊接Welding

(1) LED灯脚下的焊槽要清除干净，焊接过程中要用镊子钳住引脚，小型的LED更要特别注意。

LED lights at the foot of the solder bath to be cleaned, the welding process to pin vise tweezers, small LED also to pay special attention.

(2) 焊接过程中不能向LED灯体施加任何压力，以免LED内部出现裂纹。

the welding process can not exert any pressure on the LED light body, so LED internal cracks.

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## CAUTIONS/注意事項

(3) 当LED焊接到PCB上时, 位置应当对准, 这样可避免对LED金线产生内应力, 否则这个内应力就会在高温使用中引发问题, 焊接完成后, 有必要用三分钟的时间让LED从高温状态回到常温下。

When the LED is soldered onto the PCB, the position should be aligned so that the gold wire to the LED to avoid internal stress, the stress would otherwise cause problems in the use at high temperatures, the welding is completed, it is necessary to use three minutes time for LED back from a high temperature state at room temperature.

(4) 如果用烙铁焊接同一PCB上线性排列的LED, 不可同时焊接同一LED的两个灯脚。

If the LED PCB soldering iron of the same linear array, not both simultaneously welded in the same LED lamp pins.

(5) 烙铁焊接: 烙铁 (最高30W) 尖端温度不超过260℃, 焊接时间不超过3秒, 焊接位置至少离胶体5毫米。  
soldering iron: iron (up to 30W) tip temperature does not exceed 260 °C, soldering time is not more than 3 seconds, the welding position for at least 5 mm from the gel.

### 五、预防冲击电流和电压The impact of current and voltage prevention

(1) LED使用过程中请参考我滴的样品承认书作业, 不能有过电流现象。

LED use process please refer to my book drop of the sample admitted that the job can not be over-current phenomenon.

(2) 为了在稳定条件下使用LED, 应把它和保护电阻串联起来, 电阻值根据所提供LED的限电压或限电流值而定, 适宜的正向电流IF范围为10-20mA。

stable to the conditions used in the LED, and it should protect the resistor in series, the resistance value of the threshold voltage of the LED according to a current value or limit may be provided, a suitable range of the forward current IF of 10-20mA.

(3) 瞬间的脉冲电流或电压会破坏LED内部固定连接, 所以电路必须仔细设计, 这样在线路开启闭合时, LED不会受到过流 (过压) 冲击。

current or voltage pulse instantaneous connection will destroy the LED internally fixed, so the circuit must be carefully designed so that when opening or closing the line, LED will not be over-current (over-voltage) shocks.

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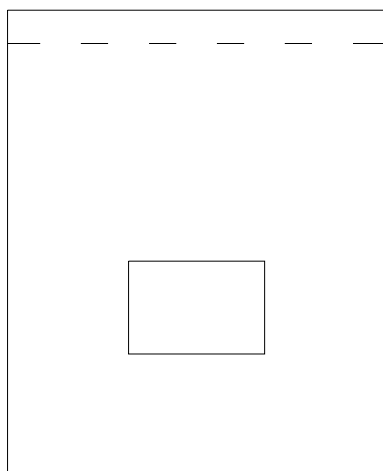
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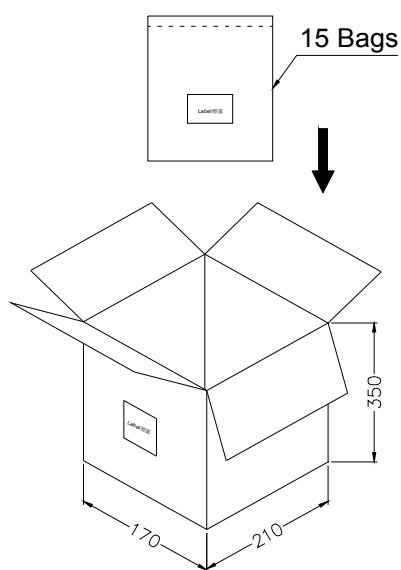
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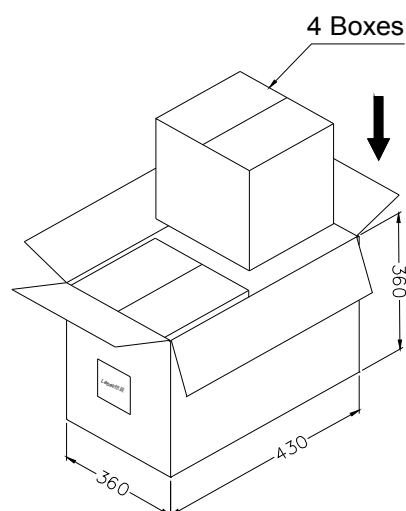


Antistatic Bag  
防静电袋

廠商名、商標等	
產品型料號	
品名:	
客戶料號	QC蓋章
生产单号:	
客戶訂單號	
亮度(cand):      波長(nm):	
電壓(v):	
數量(PCS):      檢驗員:	
生產日期:	



Inner carton/內箱



Outer carton/外箱