产品规格书

SPECIFICATION

- ◆ 产品名称（Product）：猛龙 3535-Q7（RAPTORS 3535-Q7）
- ◆ 产品型号（Type）： JT-KF3535QBZGSURW-CB-Q7
- ◆ 版本号 （Version No.）：V6.4

描述 Description:

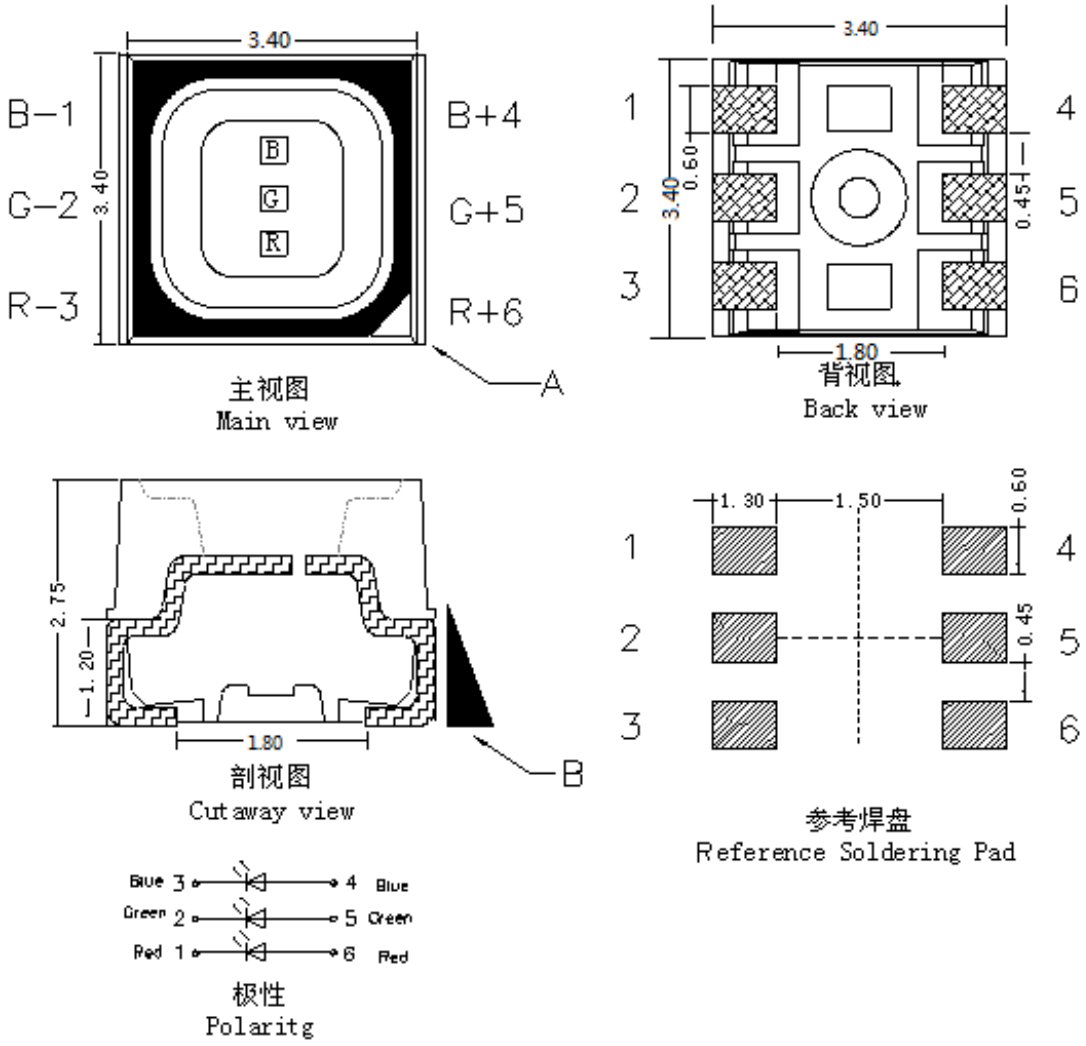
- ■ TOP 发光二极管（TOP Light Emitting Diode）
- ■ 胶体颜色（Colloid Color）：雾状（White diffused）
- ■ 发光颜色（Emission Color）：全彩（Full Color）

技术中心 Technology Center		客户 Customer	
制作 DRAW	批准 APPROVE	确认 CONFIRM	批准 APPROVE
客户名称（Customer）：			
客户部品号（Customer No.）：			
发放日期（Release Date）：2018-07-20			

地址：苏州张家港市杨舍镇国泰北路东侧
Add： East side of Guotai North Road, Yangshe Town, Zhang Jiagang city, Suzhou
电话(Tel)： 0512-35010333 传真(Fax)：0512-35010333
网址(Web)： www. jt-led.com

1.外形尺寸

Outline Dimension



备注:

Note:

所有尺寸单位为 mm，误差范围为±0.05mm

All size units are mm, the error range is 0.05 mm

A：缺口标志

A：Nivk Mark

B：客户使用时，建议注胶高度达到 1.40mm

B：When customer is used, Recommendation injected glue height of 1.40 mm

2. 光电特性

Electrical-Optical characteristics

(1) 最大限度额定值(温度=25±5° C)

Absolute Maximum Ratings (TA=25±5° C)

项目 Item	符号 Symbol	最大额定值 Absolute Maximum Rating			单位 Unit
		Blue	Green	Red	
正向电流 Forward Current	IF	20	20	20	mA
正向峰值电流 Pulse Forward Current	IFP	30	30	50	mA
功率消耗 Power Dissipation	PD	68	68	44	mW
反向电压 Reverse Voltage	VR	10			V
灯珠焊盘工作温度 LED Pad Operating Temperature	Topr	-30°C To +85°C			° C
贮藏温度 Storage Temperature	Tstg	-40°C To +85°C			° C
焊接温度 Soldering Temperature	Tsld	Reflow Soldering: 260°C Hand Soldering: 300°C			for 10sec. for 3sec.

1/10周期, 0.1 msec脉宽

IFP Conditions : 1/10 Duty Cycle, 0.1 msec Pulse Width.

(2) 本产品光电参数(温度=25±5° C)

Initial Electrical/Optical Characteristics (TA=25±5° C).

符号 Symbol	项目 Item	单位 Units	发光颜色 Device	最小值 Min.	规格值 Typ.	最大值 Max.	测试条件 Test Conditions
VF	正向电压 Forward Voltage	V	Red	1.8		2.3	IF=20mA
			Green	2.7		3.4	IF=20mA
			Blue	2.7		3.4	IF=20mA
IR	反向电流 Reverse Current	uA	-	-	-	0.5	VR=10V
Δ λ1/2	发光角度 Viewing Angle	°	-	-	110	-	IF=20/20/20mA
Iv	发光强度 Luminous Intensity	Mcd	Red	500	550	650	IF=20mA
			Green	1000	1250	1500	IF=20mA
			Blue	200	280	380	IF=20mA
λD	主波长 Dominate Wavelength	Nm	Red	620		625	IF=20mA
			Green	512		530	IF=20mA
			Blue	460		475	IF=20mA

正向电压允许误差± 0.05V

Tolerance of measurement of Vf is ±0.05 V.

以上发光强度最小值和最大值参数仅供参考，但批量出货亮度分光跨度范围为 1：1.3 之内。发光强度允许误差±10%。

Above are the reference for minimum and maximum of luminous intensity which rank in the rate of 1:1.3 in the process of light splitting when manufacturing massively. Luminous Intensity Measurement allowance is ± 10%.

以上波长最小值和最大值参数仅供参考，但批量出货波长分光跨度范围为 R:5nm、G:4nm、B:4nm 之内。波长允许误差±1nm

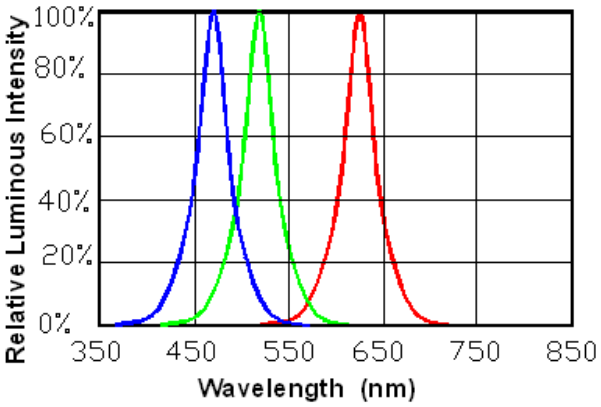
Above are the reference for minimum and maximum of wavelength, while it ranks as:R:5nm/G:4nm/B:4nm.when light splitting in mass manufacturing. Color Coordinates Measurement allowance is ± 1nm.

3. 特性曲线

Characteristic Curve

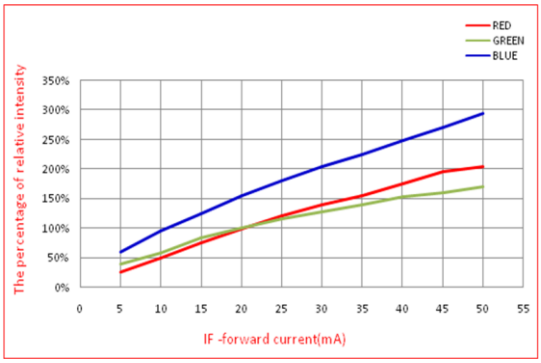
光谱分布特征曲线

Relative Spectral Distribution



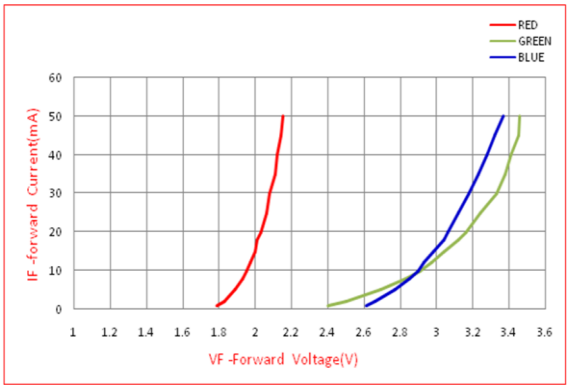
相对光强与正向电流特征

Relative Luminous Intensity VS Forward Current



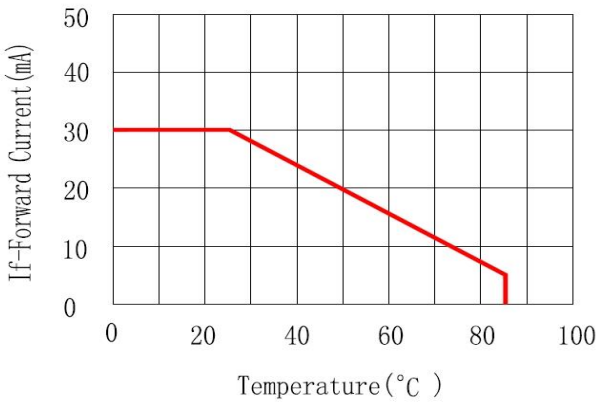
伏安特性

Electrical Characteristics

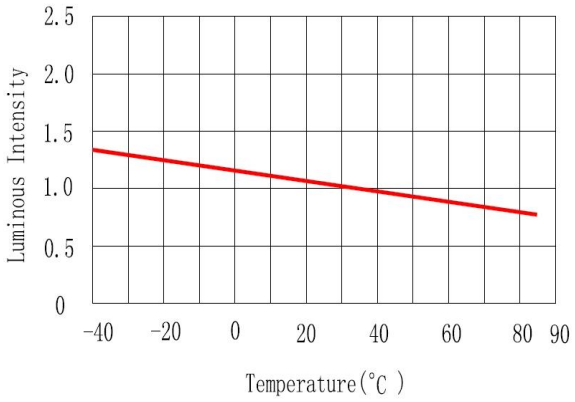


正向电流降额曲线

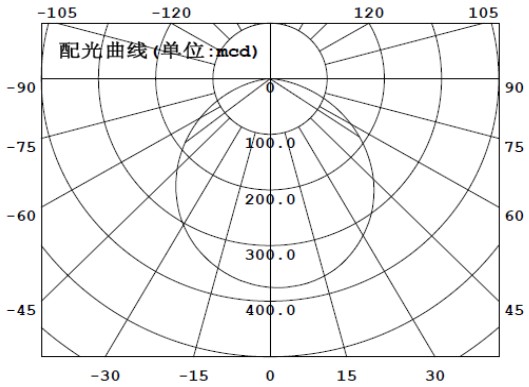
Forward Current Derating Curve



光强与环境温度曲线
Luminous Intensity VS Ambient Temperature



配光曲线
Light distribution curve



4. 可靠性试验

Reliability Test

序号 NO.	试验项目 Test Items	参考标准 Reference	试验条件 Test condition		实验数 Laboratory number	允收水准 LTPD
1	温度循环保存 temperature cycling test	EIAJ ED-4701 100 105	-40℃～25℃～100℃～25℃ 30min ～5min ～30min～5min	100 cycles	22	0/22
2	冷热冲击保存 Thermal shock test	EIAJ ED-4701 300 307	-40℃～100℃ 15min～15min	200 cycles	22	0/22
3	高温储存 High temperature storage test	EIAJ ED-4701 200 201	Ta=100℃	1000 hrs	22	0/22
4	低温储存 Low temperature storage test	EIAJ ED-4701 200 202	Ta=-40℃	1000 hrs	22	0/22
5	常温寿命试验 Continuous operating test	EIAJ ED-4701 100 101	Ta=25±5℃ IF=1.5 倍分光电流	1000 hrs	22	0/22
6	高温高湿寿命试验 High temperature and humidity operating test	EIAJ ED-4701 100 102	Ta=85℃ RH=85% IF=额定分光电流	1000 hrs	22	0/22

7	耐焊性(回流焊） Soldering resistance test	EIAJ ED-4701 300 301	Pre treatment： Tsol=230℃, T=10s	3times	22	0/22
8	潮湿等级 3 MSL3	IPC/JEDEC J-STD-020D.1	1. 除湿 125℃/24H Except wet 125 ℃/ 24 h 2. Ta=60℃ RH=60%吸湿 52H Ta=60℃RH=60% moisture absorption 52 h 3. Tsol=230℃, T=10s 回流焊 3 次 Tsol = 230 ℃, t = 10 s reflow soldering 3times	1times	22	0/22
备注 Comment	以上试验项目如与客户试验要求存在差异的或者特殊客户特殊要求的可根据实际情况按照客户的要求进行试作, 客户未要求的按我司试验标准试作. 不同产品使用不同电流进行测试。 All the tests such as with the customer requirements exist differences or special customer's special requirement, can according to the actual situation in accordance with the requirements of customers are trying, not required by the customer according to the standard of our test trial. Different products using different current test.					

5. 注意事项

Cautions

5.1 焊接（包括手动和回流焊）

Soldering (Including manual and reflow soldering)

5.1.1 使用烙铁人手焊接

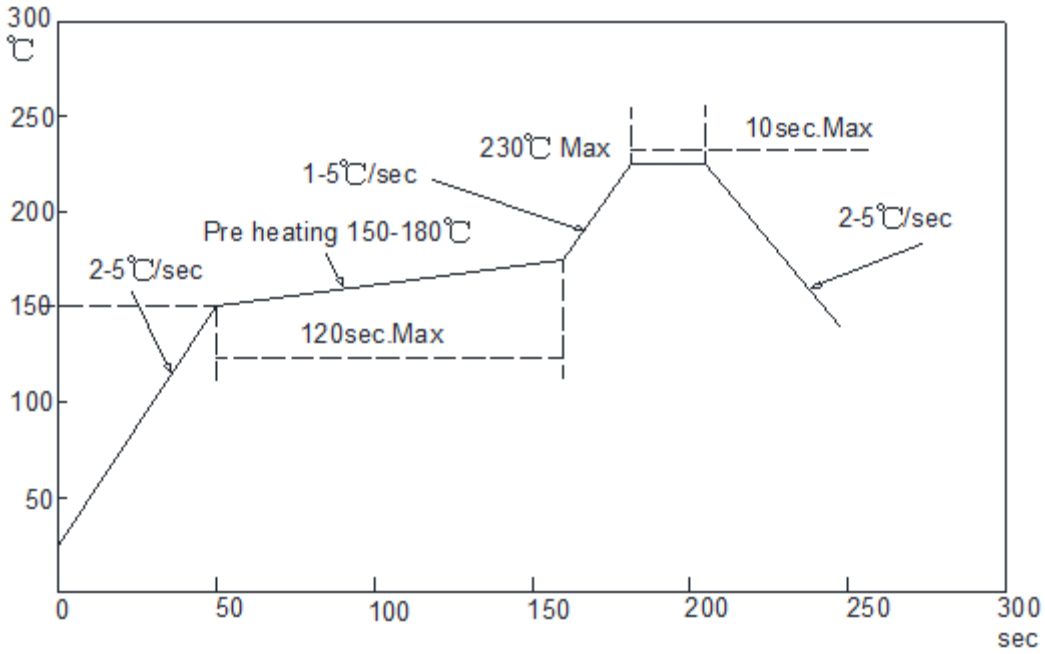
Hand Soldering

焊接时烙铁的温度必须保持在 300℃以下，且每个电极只能进行一次焊接，每次焊接的持续时间不得超过 3 秒。因 LED 尺寸较小，采用手工焊接较难管控焊接温度及加锡时间的一致性，且易破坏灯体结构，严重时可能造成 LED 失效，所以请尽量使用回流焊机台作业。

Welding when the temperature of the soldering iron must be kept below 300 ℃, and each can only make a welding electrode, the duration of each welding should not more than 3 seconds. Due to the small size of leds, the use of manual welding are harder to control welding temperature and tin time consistency, and easy to destroy the light body structure, serious when can cause the LED failure, so please use reflow welding machine operation.

5.1.2 回流焊接

Reflow soldering



备注

note：

a. 建议 LED 贴板前对 PCB 板进行烘烤，建议烘烤条件 110℃/4H。

Recommended LED board before the board to bake PCB, recommended baking conditions 110℃ /4H.

b. 回流焊接时，建议焊接温度控制在 225±5℃以内。

When reflow soldering, it is suggested that the welding temperature should be controlled within 225±5 ℃.

c. 回流焊接最多只能进行两次，在回流焊接升温过程中，请不要对 LED 施加任何压力。 在焊接完成后，待产品温度下降到室温之后，再进行其他处理。

The reflow soldering only twice, in the process of reflow soldering temperature, please don't impose any pressure on the LED. After completion of welding, after the product after cooling to room temperature, and other processing.

5.2 储存

storage

本产品使用密封防潮抗静电铝箔袋包封并附有干燥剂，搬运过程中应避免挤压、刺破包装袋的情况发生，同时为避免产品受潮引发的可靠性失效问题，需做好 LED 产品焊接前的储存与防潮措施，如下：

This product use sealed moisture-proof anti-static aluminum foil bag bag with desiccant, handling should be avoided in the process of extrusion, prick bags happens, at the same time to avoid the reliability of the product be affected with damp be affected with damp cause failure problem, need to be LED products storage and moisture-proof measures before welding, are as follows:

5.2.1 未开封的产品需储存于:温度:30℃以内/湿度:60%RH 以下的环境,且 3 个月内用完。

Unopened product should be stored in: temperature: within 30 ℃ / humidity: 60% RH under environment, within 3 months and finished.

5.2.2 在开包装之前，请先检查包装袋有无漏气，如果有漏气现象，请退回我司重新烘烤除湿包装后再使用。

Before opening the product package, please check whether there is any leakage on packaging, if there is a leak phenomenon, please return to bake dehumidification packing before use.

5.2.3 包装袋开启后,产品必须：在规定环境温度 30℃以内、湿度 60%RH 以下的条件中使用；并且需要在 12H 内焊接完毕；未使用完的需存储需于温度:25℃以内 湿度:30%RH 以下的环境,且必须在 24H 内用完。

Bag after open, the product must be: within the prescribed environmental conditions within 30 ℃ temperature humidity below 60% RH; And need to be within 12 h after welding; Has not used up for storage for in temperature: within 25 ℃, humidity: 30% RH under environment, and must be finished within 24 h.

5.2.4 材料拆装后使用时间超过 12H 未用完，需重新烘烤后才可使用。烘烤条件如下表：

Materials used after disassembling time more than 12 h, not use up need to be available after baking. Baking conditions in the following table:

产品型号 Product model	开封前受潮 Dampness before Kaifeng	开封前未受潮 No damp before Kaifeng	
		<60天 <60 day	>60天 >60 day
1010	返厂处理	不烘烤 Not baking	60℃/24HR
3535/2727/ 2525/1820	返厂处理	85℃/6HR	85℃/12HR
1415/2020	返厂处理	60℃/12HR	60℃/24HR
备注 Note	1. 开封前受潮:①. 包装漏气. ②. 打开包装后发现包装内部湿度卡指示已达30%. Dampness before Kaifeng: ① packing air leakage. ②. after opening the package, found that the internal leakage rate of package reached 30 %. 2. 针对">60天"以包装标签上包装日期为基准. For" > 60 days" is based on the packaging date of the packaging label.		

5.3 静电防护

Electrostatic protection

5.3.1 静电和电涌会导致产品特性发生改变，例如正向电压降低等，如果情况严重甚至会损毁产品。所以对于整个工序（生产、测试、包装等）与 LED 直接接触的员工都要做好防止和消除静电措施。

Static and transient causes product characteristics change, such as forward voltage to reduce, if severe cases may even damage the product. So for the entire process (production, testing, packaging, etc.) in direct contact with the LED workers to make measures to prevent and eliminate static electricity.

5.3.2所有相关的设备和机器都应该正确接地，接地交流阻小于1.0欧姆，工作台上需垫表面电阻为106-109Ω的桌垫。

All related equipment and machines should be properly grounded, grounding ac resistance is less than 1.0 ohms, workbench

to pad surface resistance is 106-109 Ω table mat.

5.3.3 在容易产生静电的环境与设备上，还必须安装离子风扇，作业过程中操作员需使用防静电手环，防静电垫子，防静电工作服、工作鞋、手套，防静电容器等，取放材料时尽可能拿胶体部分。

In easy to produce static environment and equipment, must also be installed ion fan, operator need to use anti-static bracelet in the process of operation, anti-static MATS, anti-static overalls, work shoes, gloves, anti-static container, etc., take put material with colloid part as much as possible.

5.4 其他事项

Other items

5.4.1 LED 产品的树脂封装部分相当脆弱，请勿用坚硬、尖锐的物体刮擦封装树脂部分，用镊子夹取 LED 时也应当小心注意。

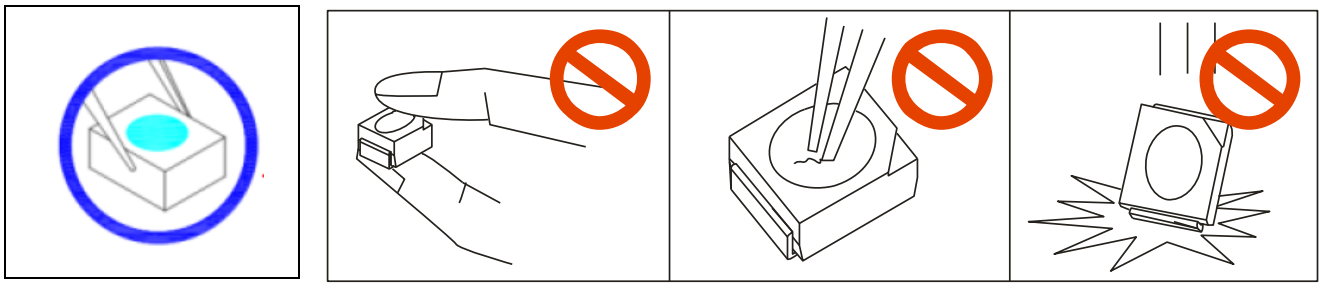
Very fragile epoxy resin encapsulation part of LED products, please do not use hard, sharp objects scratching encapsulating resin parts, use tweezers clip also should be careful when you pick up the LED.

5.4.2 请勿直接用手拿取 LED 产品：直接用手拿取 LED 产品不但会污染封装树脂表面，也可能由于静电等因素导致产品性能的改变。

Please do not directly by hand take LED products: directly with the hand take LED products will not only pollution encapsulating resin surface, may also be due to factors such as electrostatic leads to a change in product performance.

5.4.3 请勿对 LED 产品施加过度压力，特别当 LED 产品处于高温状态下（例如在回流焊接过程中），过度的压力可能直接影响封装内部的管芯和金线。

Please do not put too much pressure on LED product, especially when LED products under high temperature condition (for example) in the process of reflow soldering, excessive stress can directly affect the sealed tube core and gold thread.

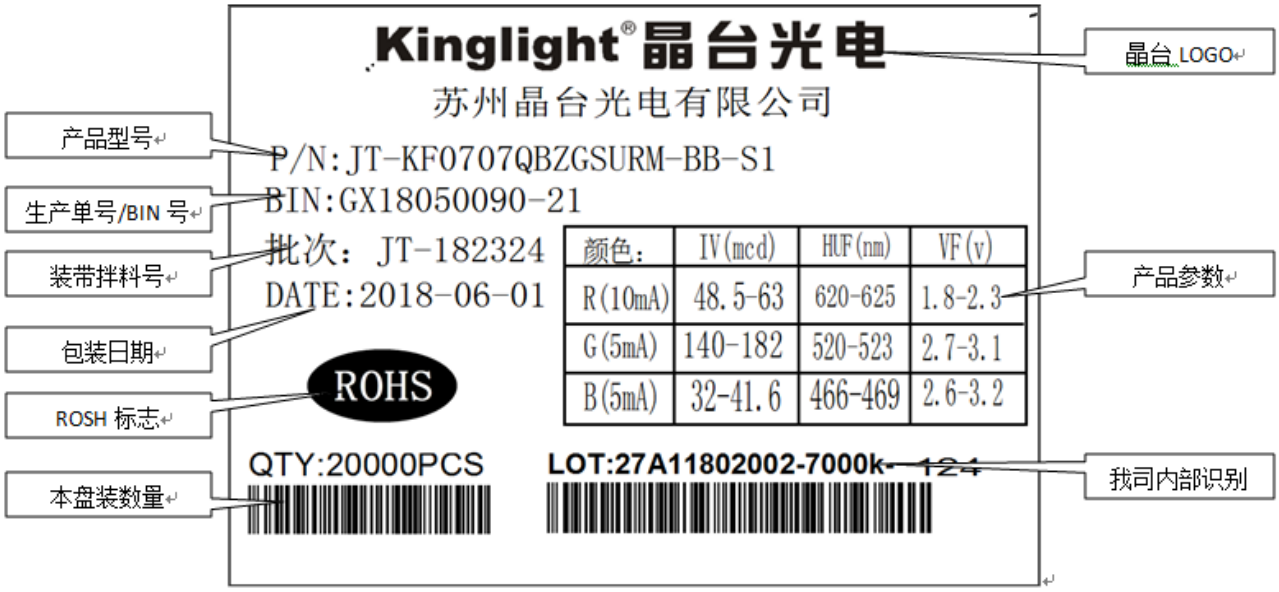


6. 包装

PACKAGING

(1) 包装标签：

Packaging label



标签说明：

Notes of Label:

a 、在使用我公司 LED 产品生产时请对应好我司产品型号是否一致不同型号产品不能混用。

Please make sure the type of our led products, different types cannot be mixed when using.

b 、不同拌料编号不能使用于同一块显示屏（型号、参数相同也不能用在同一显屏）。

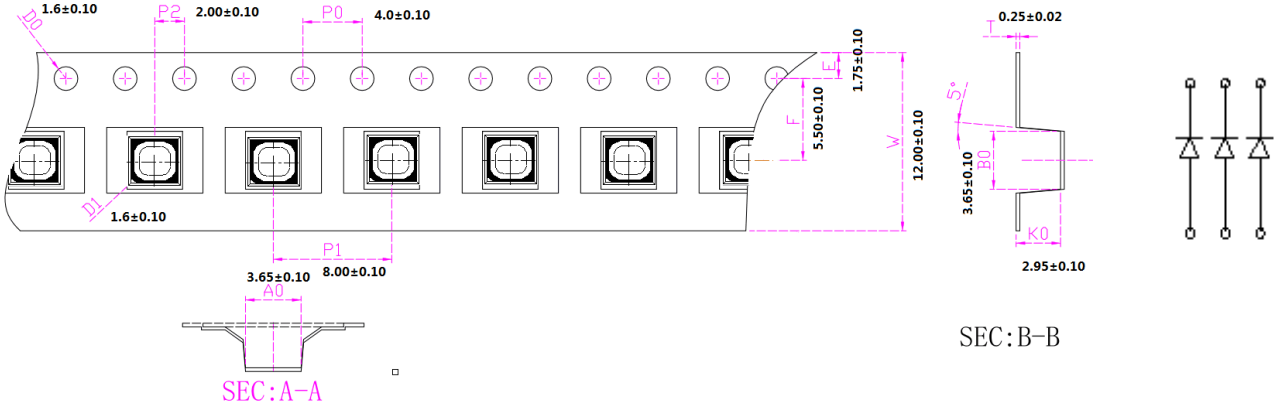
Products in different Banliao number cannot be used in one display panel together ,even with the same type and parameter.

(2) (2)LED 在装带之后纸箱包装.

The LED are packed in cardboard boxes after taping.

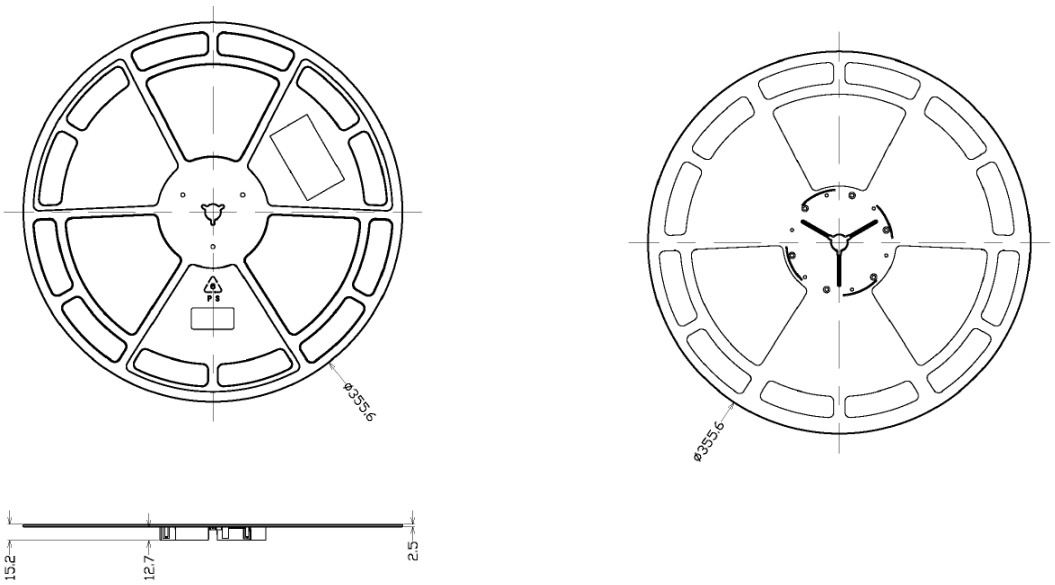
(3) 装带规格(单位:毫米)

Taping Specifications (Units:mm)



(4) 卷轴尺寸

Reel Dimension



每卷数量 3500 个/卷

PACKAGE 3500Pcs/Reel

(5) 最小包装标签注明以下:产品名称、批号、参数范围、数量。

The label on the minimum packing unit shows ; Part Number, Lot Number, Ranking, Quantity.

(6)请注意防水防潮。

Keep away from water, moisture in order to protect the LED.

(7) 须采取适当防护措施,以防包装箱跌落或受到强力撞击造成对产品的损伤。

The LED may be damaged if the boxes are dropped or receive a strong impact against them. so precautions must be taken to prevent any damage.