SPECIFICATION
产品规格书

[redacted]

深圳市瑞丰光电子股份有限公司
承认专用章

电话：0755-2967-5000
传真：0755-6683-9322
邮箱：sales@refond.com
地址：广东省深圳市光明区圳汇路瑞丰光电大厦

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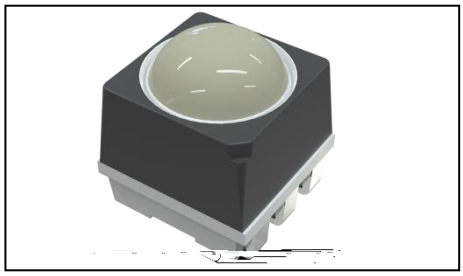
1. Description 产品介绍

1.1 General Description 产品描述



Surface brush design

2.8mmx2.7mmx3.0mm

该产品为全彩 LED 器件，高对比度(五面刷墨设计)，产品尺寸: 2.8mmx2.7mmx3.0mm。

1.2 Features 产品特征

Surface not reflective. 表面不

High luminous Intensity, Low y and Long life.

光强高、功耗低、可靠性好、

Water-resistant(IPX6): 防水等

Moisture sensitivity level: 5a

RoHS compliant. 满足RoHS要

Matte surface. 哑光表面

Pb-free reflow soldering application. 无铅回流焊

1.3 Application 产品应用

Oudoor full-color video screen. 户外全彩显示屏

Indoor and outdoor decorative lighting. 室内外装饰照明

Amusement. 娱乐产品

General use. 其他应用

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1.4 Package Dimension 封装尺寸

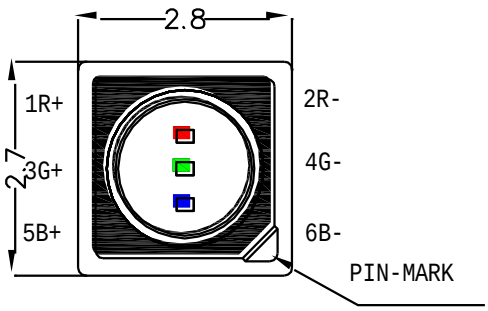


Fig.1-1 Top view

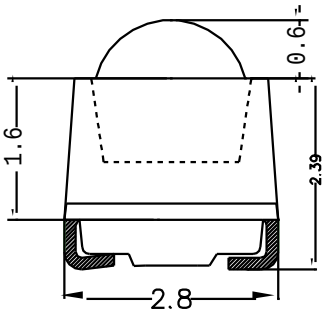


Fig.1-2 Side view

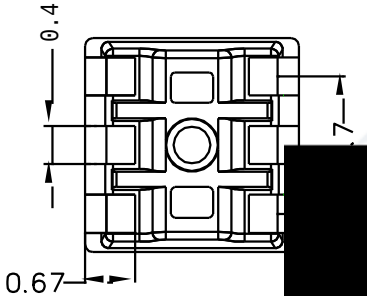
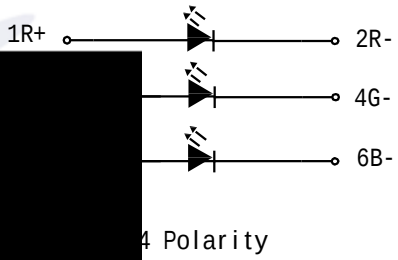


Fig.1-3 Bottom view



4 Polarity

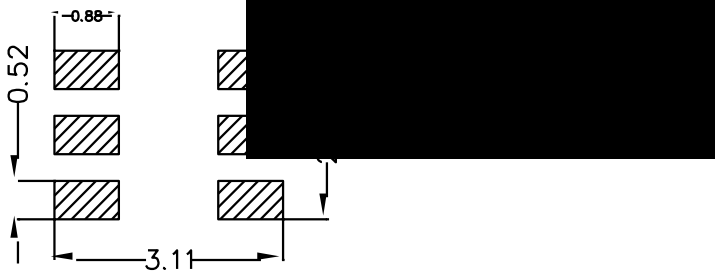


Fig.1-5 Soldering patterns

Notes 备注：

1. All dimensions units are millimeters. 所有尺寸标注单位为毫米

2. All dimensions tolerances are ±0.1mm unless otherwise noted.除特别标注外，所有尺寸公差为±0.1 毫米

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Notes 备注：

1. 1/10 Duty cycle, 0.1ms pulse width. 脉宽0.1ms,占空比1/10.

2. The above forward voltage measurement allowance tolerance is ±0.1V. 以上所示电压测量误差 ±0.1V。

3. The above . 以上所示波长测量公差 ±1nm。

4. The above luminous intensity measurement allowance tolerance ±10%. 上述发光强度的测试允许公差为 ±10%

5. Care is to be taken that power dissipation does not exceed the absolute maximum rating of the product. 使用功率不能超过规定的最大值。

6. All measurements were made under the standardized environment of Refond. 标准测试平台。

7. All the datas are just for reference, [redacted] e label. 以上参数仅供参考,请以实物标签为准。

1.6 Typical optical charact [redacted] 性曲线

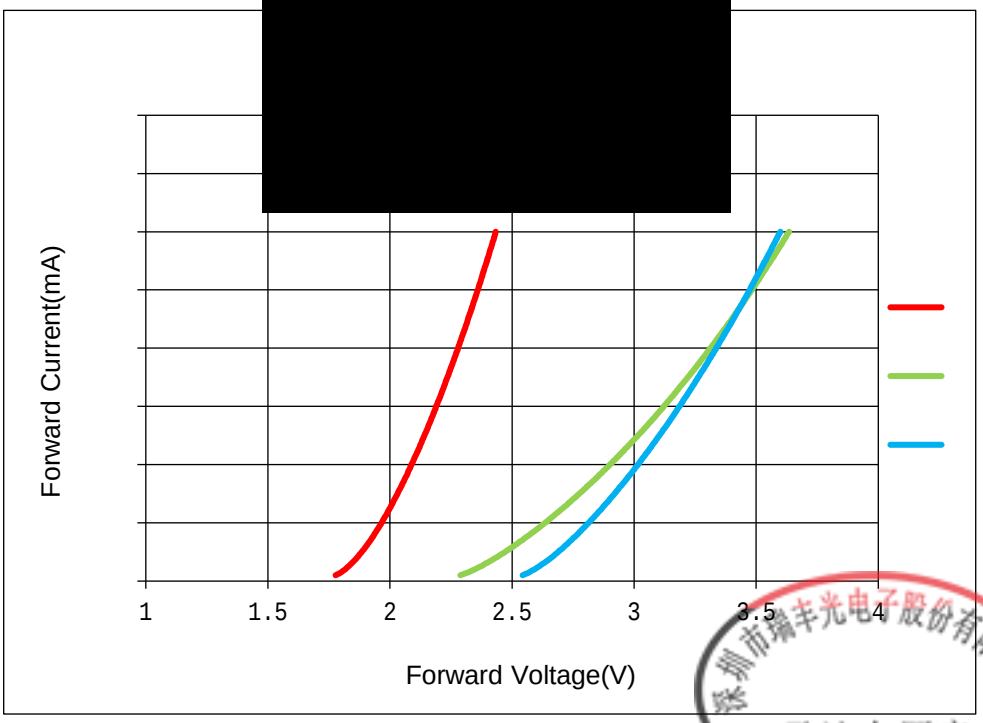

Fig 1-6 Forward Voltage Vs. Forward Current 伏安特性曲线

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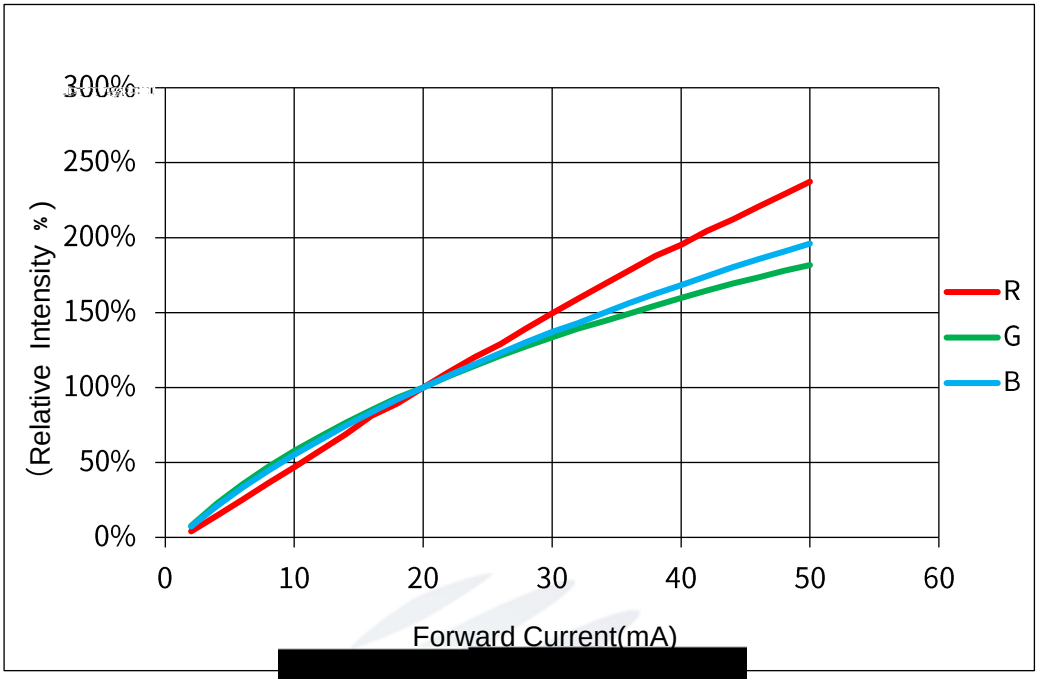

Fig 1-7 Forward Cu 与相对光强特性曲线

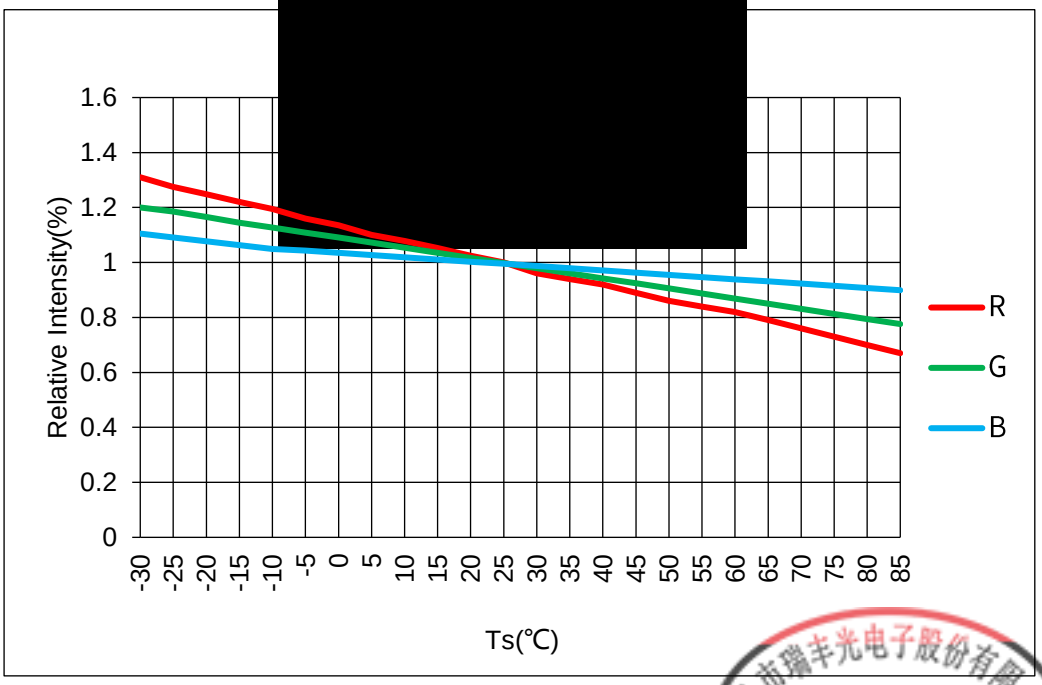

Fig 1-8 Luminous Intensity VS Ambient Temperature 光强与环境温度曲线

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Fig 1-9 Solder Te[illegible]温度与正向电流特性曲线

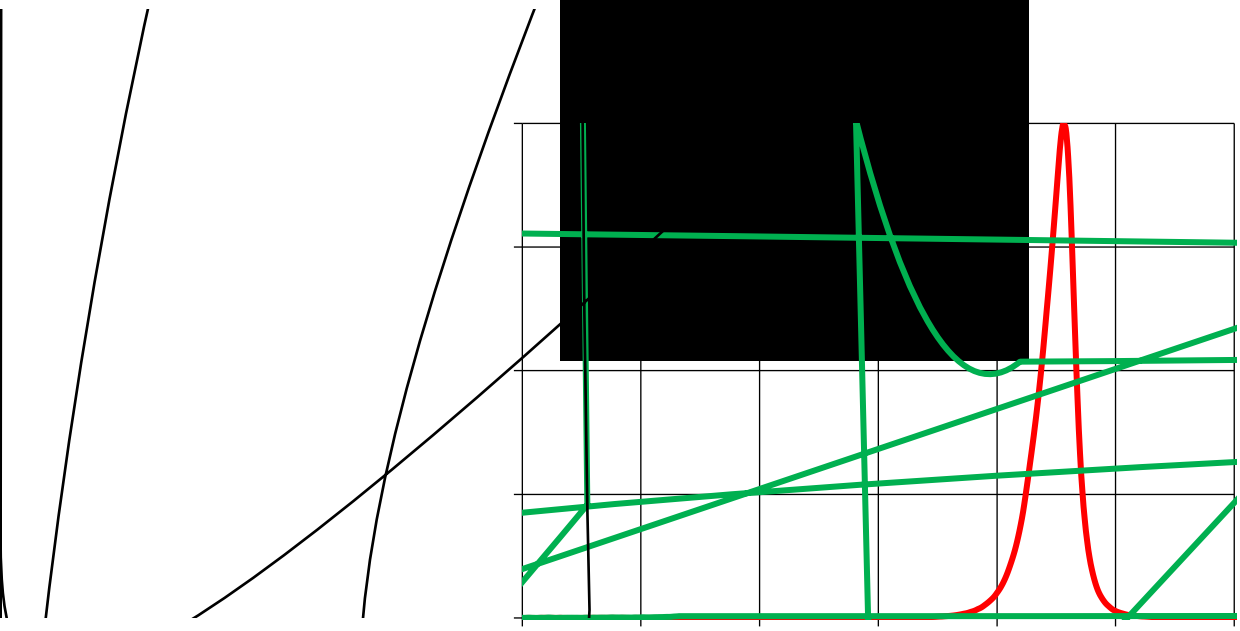

Fig 1-10 Spectrum Distribution光谱分布特性曲线

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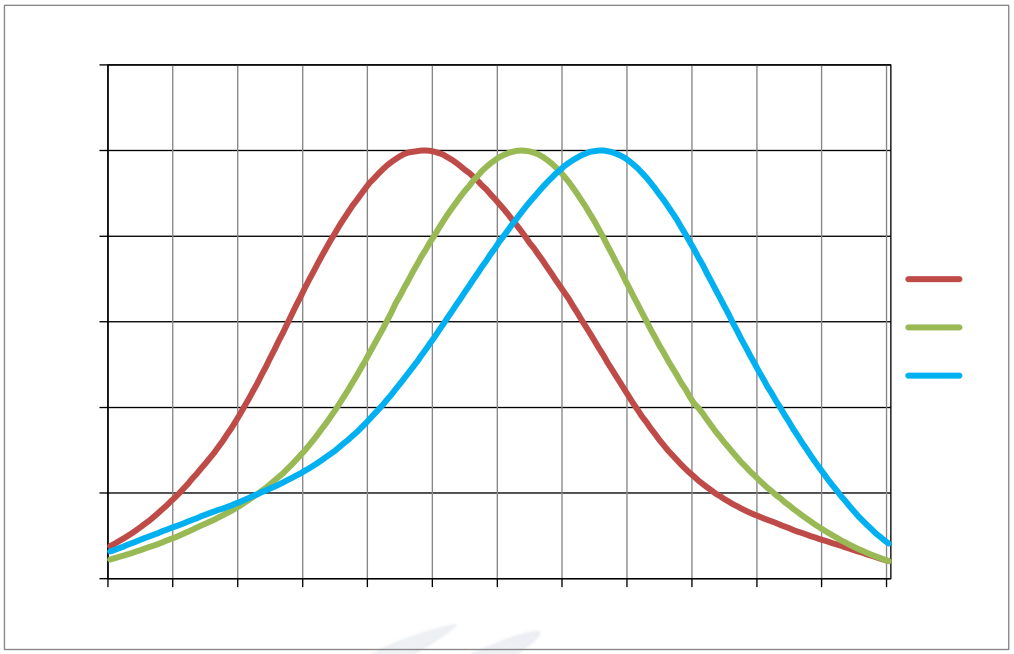

Fig 1-11 Directivity Y-Y radiation angle Y轴方向辐射角度

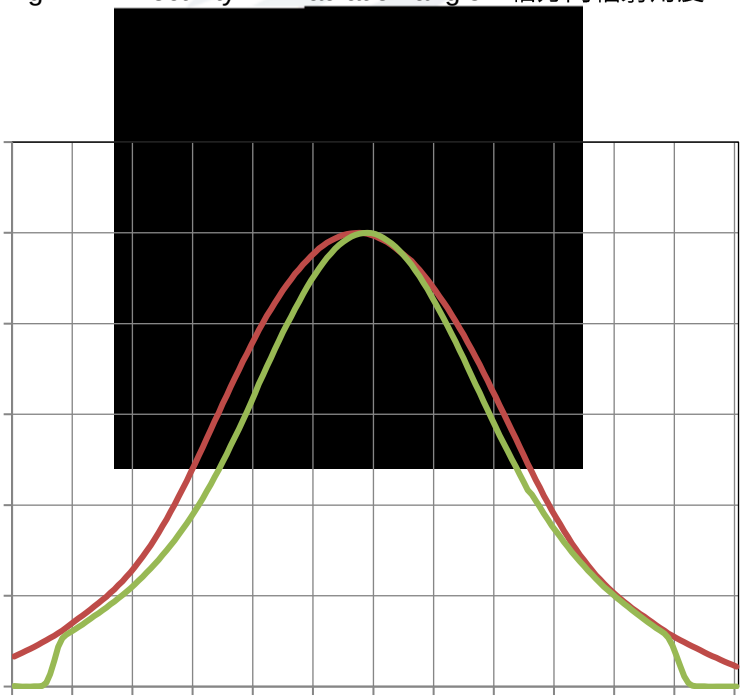

Fig 1-12 Directivity X-X radiation angle X轴方向辐射角度

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2. Packaging 产品包装

2.1 Packaging Specification 包装规格

Package:3500pcs/reel.包装每卷 3500pcs。

2.1.1 Carrier Tape Dimension 载带尺寸

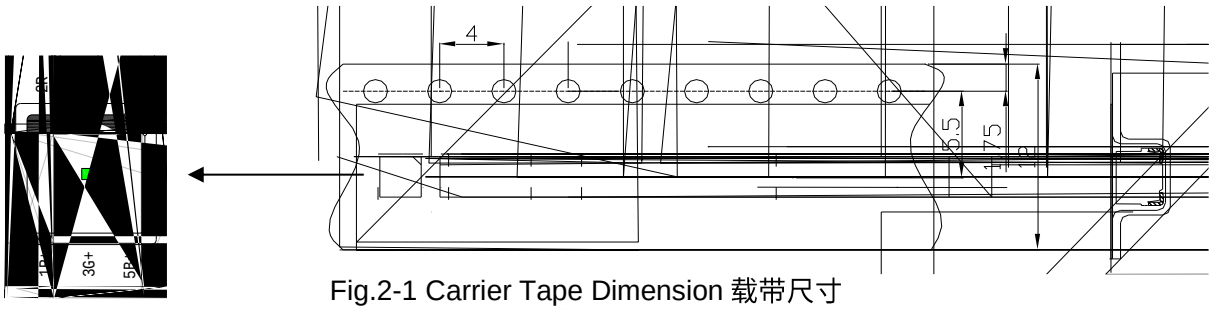

Fig.2-1 Carrier Tape Dimension 载带尺寸

2.1.2 Reel Dimension 卷盘尺寸

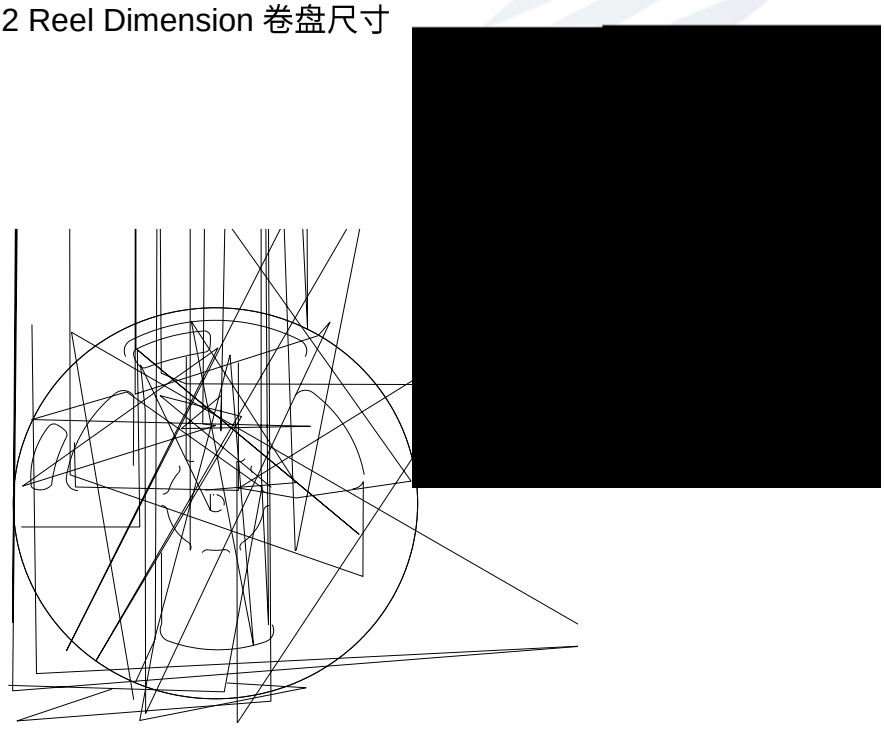

Fig.2-2 Reel

Table 2-1 Dimension 尺寸

A	400±2mm
B	100±0.5mm
C	14.3±0.3mm
D	2.6±0.2mm
E	16.4±0.3mm
F	12.7±0.3mm
T	1.9±0.2mm

Notes 备注：

The tolerances unless mentioned ±0.1mm. Unit : mm ±0.1mm，

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2.1.3 Label Form Specification 标签规格

Table 2-2 Description 标签说明

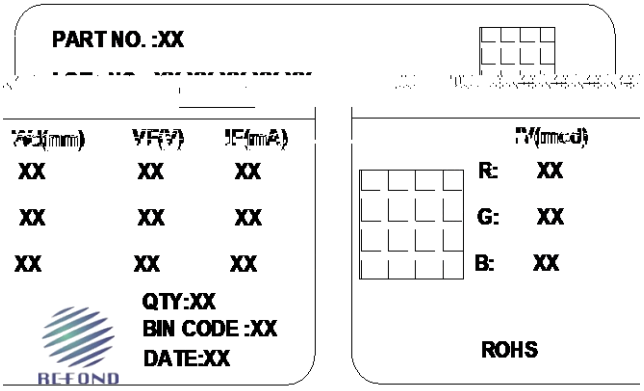

Fig 2-3 Label 标签

PART NO.	Part Number 品名
LOT NO.	Lot Number + Packing Machine No. + Serial Number +BIN No. + Quantity (K) 批次号 +包装机台号+流水号+BIN 号+数量（K）
BIN CODE	Bin Code 参数代码
IV	Llight intensity 光强
VF	Forward Voltage 正向电压
Wd	Wavelength 波长代码
IF	Forward current 正向电流
QTY	Packing Quantity 数量
DATE	Made Date 生产日期

2.2 Moisture Resistant Pac

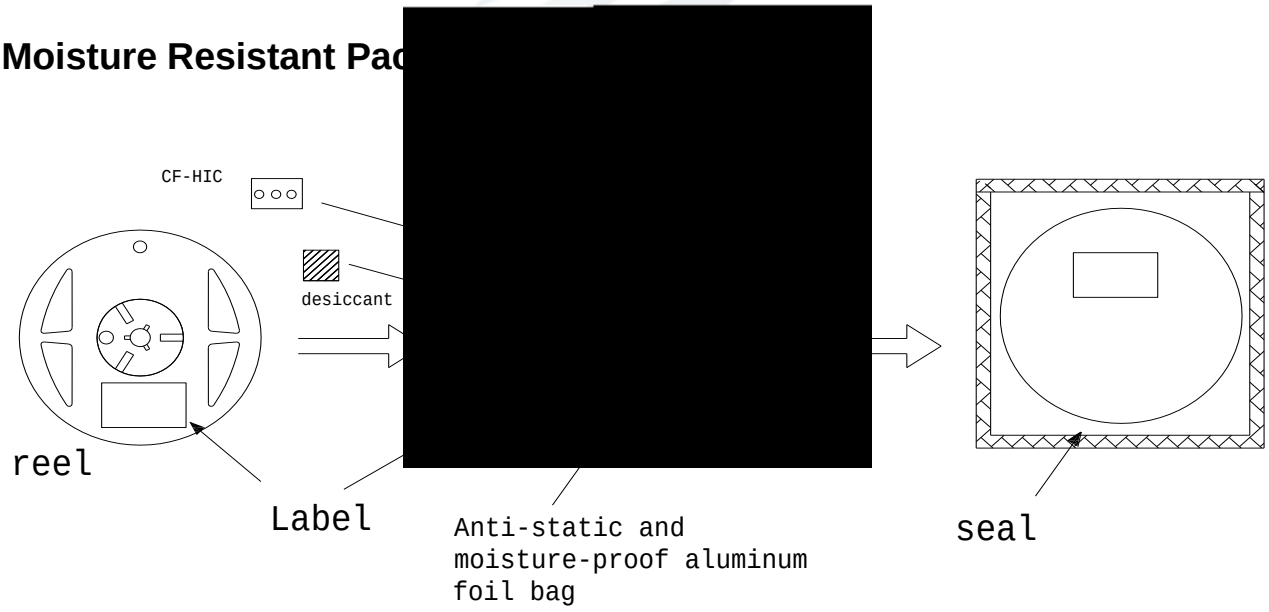

Fig.2-4 Packing 防潮包装

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High Temperature High Humidity Life Test 高温高湿寿命测试	JESD22-A101	85℃/ 85%R_H I

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Notes 备注：

1. The Reliability tests are based on Refond existing test platform. 可靠性测试基于瑞丰现有的测试标准。

2.The above reliability tests is based on the verification of a single/strip LED of Refond's existing experimentalplatform,the reliability experiment was taken under good heat dissipation conditions. when customers applies the LED to the series and parallel circuit,should take consideration of all the factors such as the current, voltage distribution, heat dissipation and others. 以上可靠性测试是基于瑞丰现有实验平台单颗/条 LED 在良好散热条件验证下的结果。客户端将 LED 应用于串、并联线路时，需自行评估电流、电压分配、散热等问题。

3.The technical information shown in the data sheets are limited to the typical characteristics and circuit

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Table 3-1 Reflow Soldering Instructions

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4.Handling Precautions 产品使用注意事项

4.1Handling Precautions

4.1.1 Storage 贮存

(1) Moisture proof and anti-electrostatic package with moisture absorbent material is used, Packaged products have one year to save time.

本产使用密封防潮抗静电袋包装,并附有干燥剂,未开封的产品保存时间一年.

(2) Before opening the package, the product should be kept at30℃ or less and humidity less the60%RH.

开封前,产品须存放在温度不高于30℃,湿度不高于60%RH的环境中.

(3) Seal anti-electrostatic bag humidity card should immediately check bag humidity indicator card in the open the bag after, Humidity is greater than or equal to 30%, Must be baked before use

密封防静电袋内的湿度卡应在打开袋子后立即查看袋内的湿度指示卡来确定,湿度显示大于或等于30%时,使用前须进行烘烤.

(4) After opening the package, th[redacted]in 24 hours. If not, please store at 30℃or less and humidity less [redacted]that the product be operated at the workshop condition of 30℃ o[redacted]%RH.

开封后,产品必须24小时内使用完[redacted]度不高于60%),如未使用完,余料须存放在温度不高于30℃,湿度不[redacted]

(5) If the moisture absorbent mat[redacted]ave exceeded the storage time, baking treatment should be performed based on the following condition : 65±5℃ for 24 hours.

对于尚未焊接的LED,如果吸湿剂或包装失效,或者产品没有符合以上有效存储条件,烘烤可以起到一定的性能恢复效果，烘烤条件:65±5℃,持续时间24H.

(6) Customer pre-treatment conditions before use：客户使用前处方式：

Customer pre-treatment conditions before use客户使用前处理方式			
Condition before use 使用前情况：	undamped Production date：2 months 未受潮，生产日期为2个月内	undamped Production date：2-6 months 未受潮，生产日期为2-6个月	undamped Production date exceed 6 months 未受潮，生产日期为6

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处理方式：	烘烤65℃±5℃/12H	烘烤65℃±5℃/24H	烘烤65℃±5℃/48H

4.1.2 Static Electricity 静电

(1) The following procedures may decrease the possibility of ESD damage.

以下操作可降低静电破坏的可能性

(2) Minimize friction between the product and surroundings to avoid static buildup.

将产品和外界之间的摩擦减到最低以避免静电产生.

(3) All production machinery and test instruments must be electrically grounded.

所有的产品设备和测试仪器必须接地.

(4) Operators must wear anti-static bracelets.

操作人员必须配戴静电环.

(5) Wear anti-static suit when entering work areas with conductive machinery.

进入带电设备工作区域时需穿防静

(6) All workstations that handle IC [redacted] must maintain an electrostatic potential of 150V or less.

所有操作 IC 和 ESD 敏感器件云[redacted]的静电保护.

4.1.3 Reverse voltage protection

In generally the reverse current [redacted]t using the component normally, but when it often suffered the rev[redacted]mits of the component than it will be damaged, the reverse current increases rapidly causing the string light display gray scale so when designing, please pay attention to control the reverse voltage we suggest the reverse voltage less than 10V.

通常 LED 的反向漏电流都会很小,不会影响正常使用. 如果长期遭受超过其所能承受的反向电压冲击时,LED 会损伤，反向漏电流会迅速变大,引起显示屏零灰度下发光的发生。在设计中，要注意控制反向电压，建议加在 LED 上的反向电压值不超过 10V.

4.1.4 The safe temperature for LEDs working 温度保护

Luminous Intensity deceased radically, if LEDs worked in hot environment for a long time, they will be disabled easily. When LEDs are working in a closed

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array, we sug surface temperature should be lower than 55
temperature should be lower than75 .
LED 在高温条件下,衰减会加速,本身应力也会增大，若长期处于高温环境下,极容易出现失效. 对于高密度排列使用的情况,建议在使用过程中灯面温度不超过 55℃，灯脚温度不超过 75℃.

4.1.5 Others 其它事项

Do not directly touch or handle the epoxy surface. It may damage the internal circuitry.
Handle the component along the side surfaces by using forceps or appropriate tools.
请勿直接触摸或操作环氧树脂表面，这可能会损坏内部的电路，拿取时用镊子或合适的工具夹在元件的侧边

4.1.6 Declare 申明

(1) This specification is written bo the latter is formal.
此规格书以中英文方式书写；若有

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Version History/修订历史

Date日期	Revisor修订者	Version版本	Verifier审核	Remarks备注
2023-04-10		E0		
2023-07-01		E1		
2023-07-15		E2		
2023-08-20		E3		
2024-03-10		E4		

[redacted]

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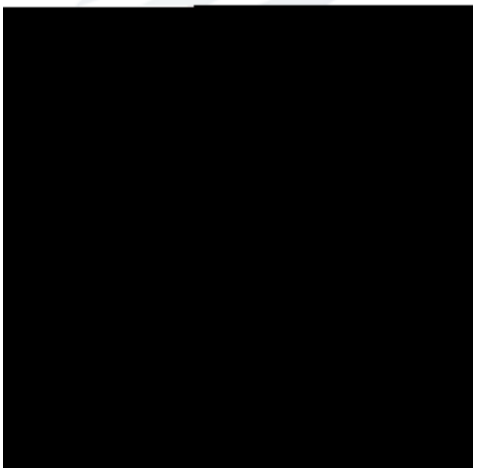

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