

SPECIFICATION 产品规格书

REFOND P/N 产品型号

RF-AUB170TS-ED

R&D 研发

Mass Product 量产供货



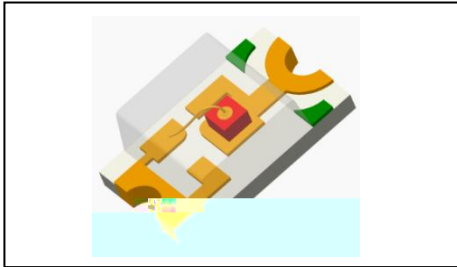
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1. Description 产品介绍

1.1 General Description 产品描述



The Colour LED which was fabricated using a amber chip, Package Dimension : 2.0mmX1.25mmX0.7mm.

该产品为色光 LED，是由琥珀光芯片封装形成，产品尺寸：2.0mmX1.25mmX0.7mm。

1.2 Features 产品特征

Extremely wide viewing angle. 发光角度大

Suitable for all SMT assembly and solder process. 适用于所有的SMT组装和焊接工艺

Moisture sensitivity level: Level 3. 防潮等级 Level3

RoHS compliant. 满足RoHS要求

1.3 Application 产品应用

Optical indicator. 光学指示

Switch and symbol, display. 开关和标志，显示器等

General use. 其他应用



1.4 Package Dimension 封装尺寸

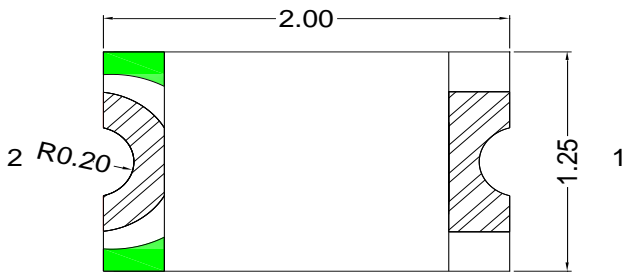


Fig.1-1 Top view 正面视图

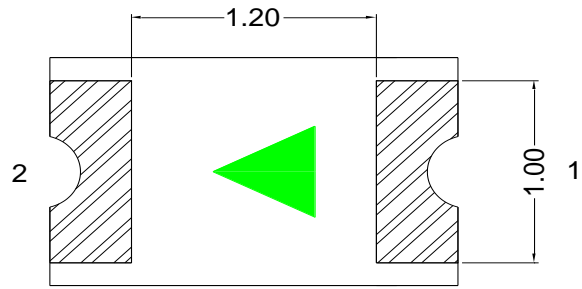


Fig.1-2 Bottom view 背面视图

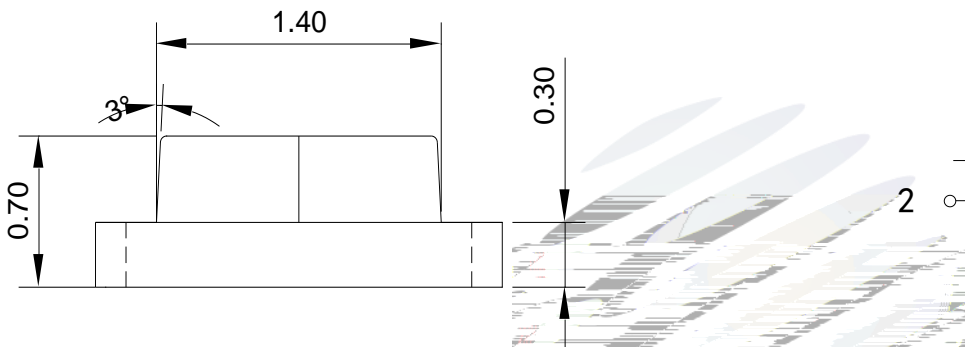


Fig.1-3 Side view 侧面视图



Fig.1-4 Polarity 极性

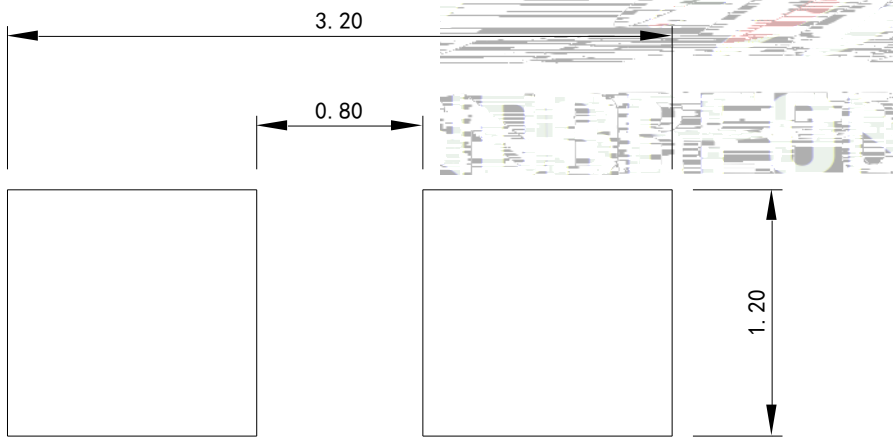


Fig.1-5 Soldering patterns 推荐焊盘

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 $\pm 0.2\text{mm}$ unless otherwise noted.

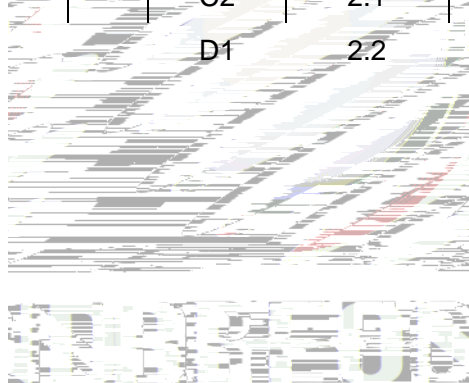


除特别标注外, 所有尺寸公差为 ± 0.2 毫米

1.5 Product Parameters 产品参数

Table 1-1 Electrical / Optical Characteristics at Ts=25°C 电性与光学特性

Item 项目	Test Condition 测试条件	Symbol 符号	Value			Unit 单位	
			Min. (最小值)	Typ. (典型值)	Max. (最大值)		
Spectral Half Bandwidth 半波宽	$I_F=20\text{mA}$		--	15	--	nm	
Forward Voltage 正向电压	$I_F=20\text{mA}$	V_F	B1	1.8	--	1.9	V
			B2	1.9	--	2.0	V
			C1	2.0	--	2.1	V
			C2	2.1		2.2	V
			D1	2.2			



Notes 备注: $V_R=5\text{V}$ For test conditions. $V_R=5\text{V}$ 为测试分选条件

1.6 Typical Optical Characteristics Curves 典型光電特性曲線

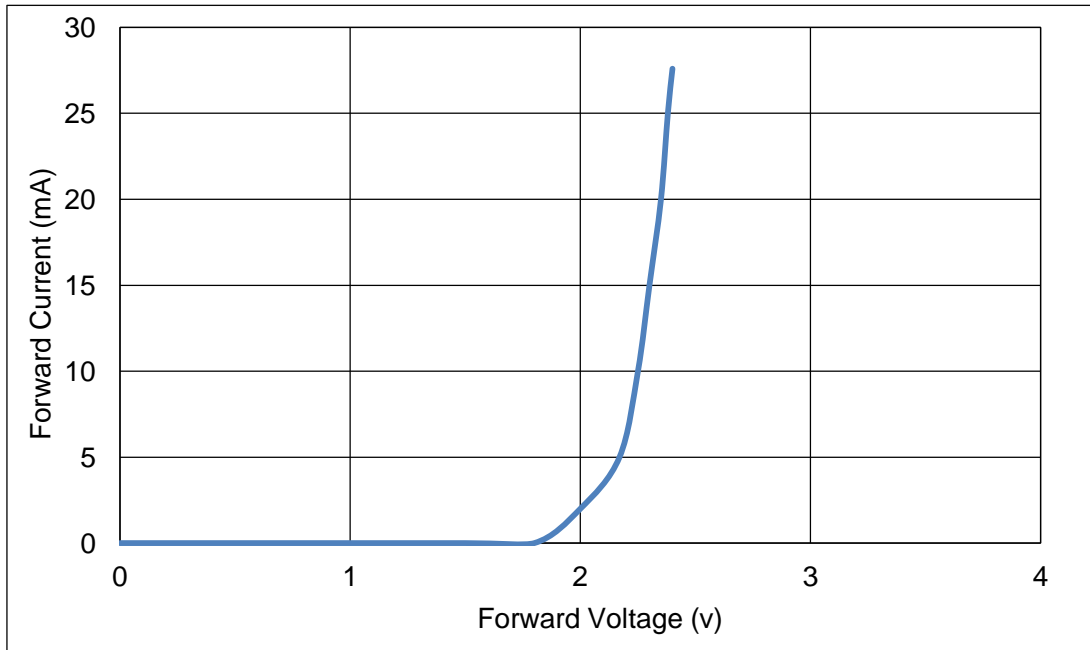


Fig 1-6 Forward Voltage Vs Forward Current 伏安特性曲線

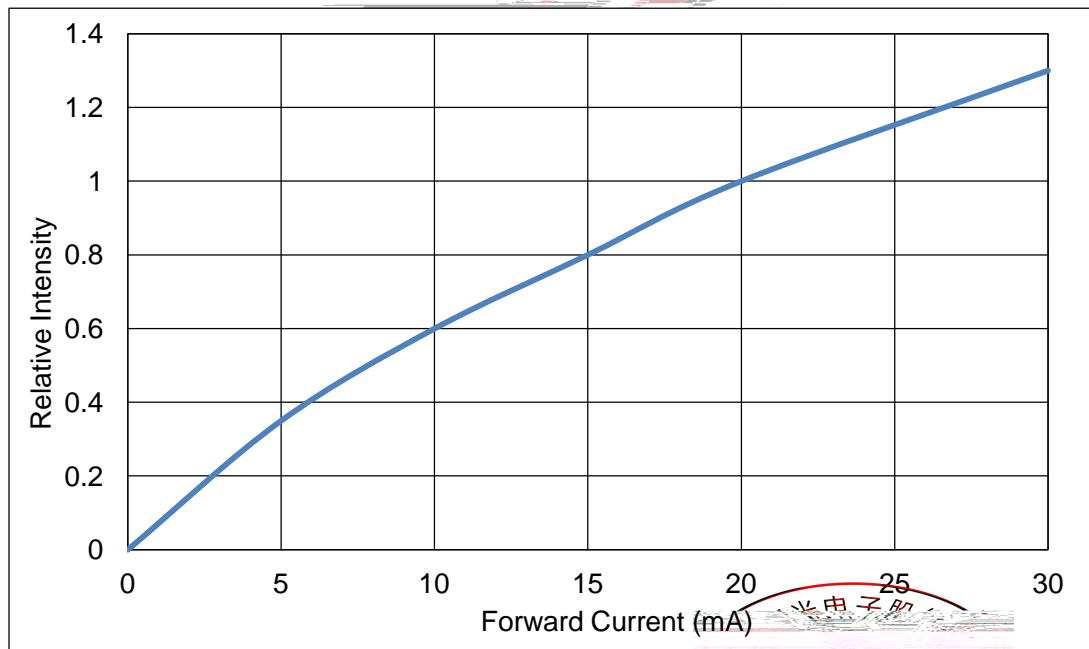
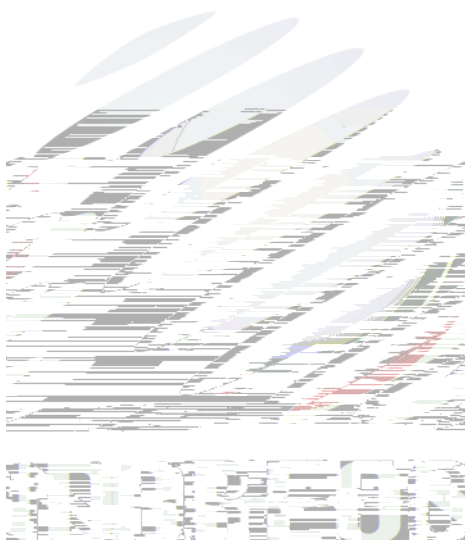
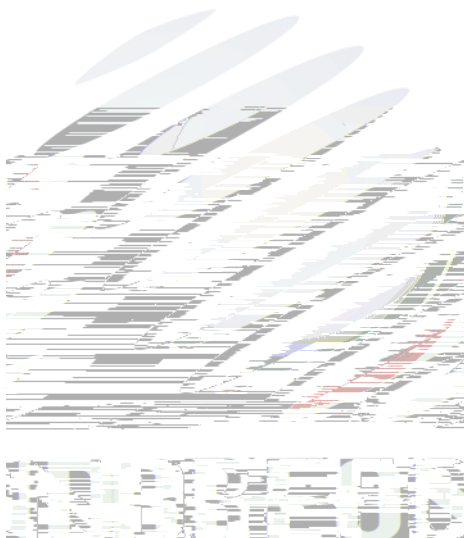


Fig 1-7 Forward Current Vs Relative Intensity 正向電流與相對光強特性曲線





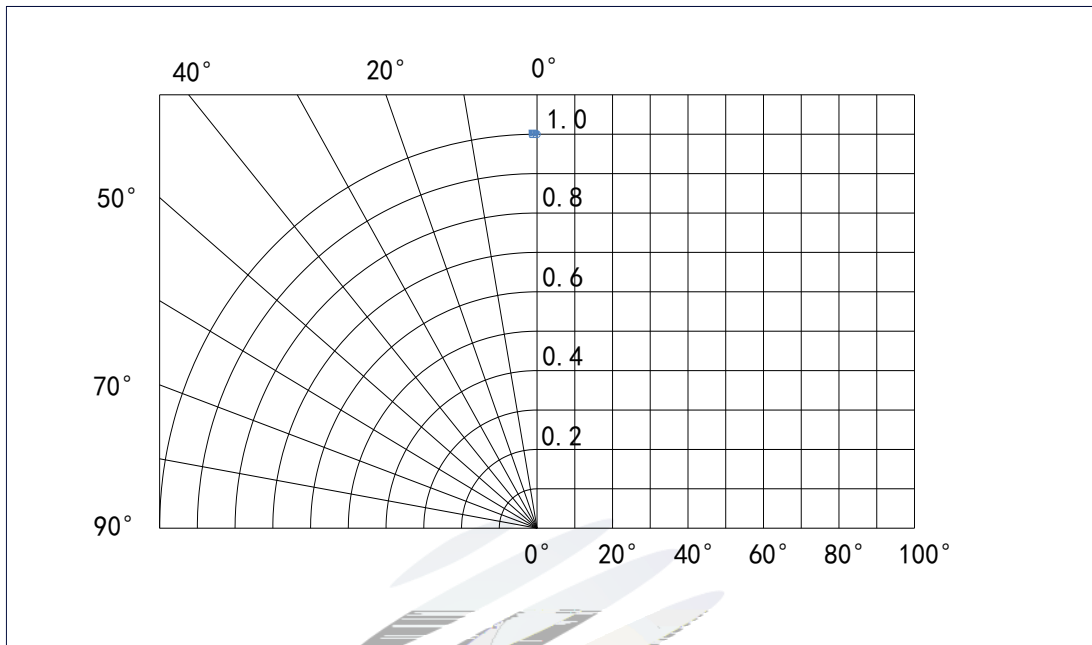
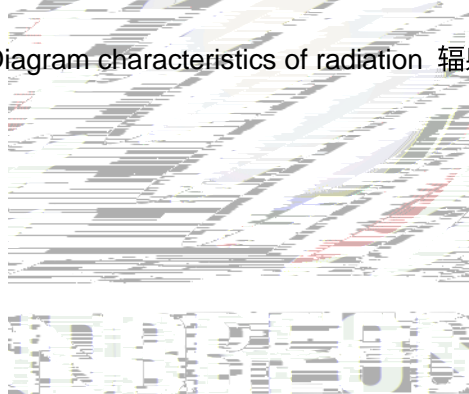


Fig 1-12 Diagram characteristics of radiation 辐射特性曲线



2. Packaging 产品包装

2.1 Packaging Specification 包装规格

Package:4000pcs/reel.包装每卷 4000pcs。

2.1.1 Carrier Tape Dimension 载带尺寸

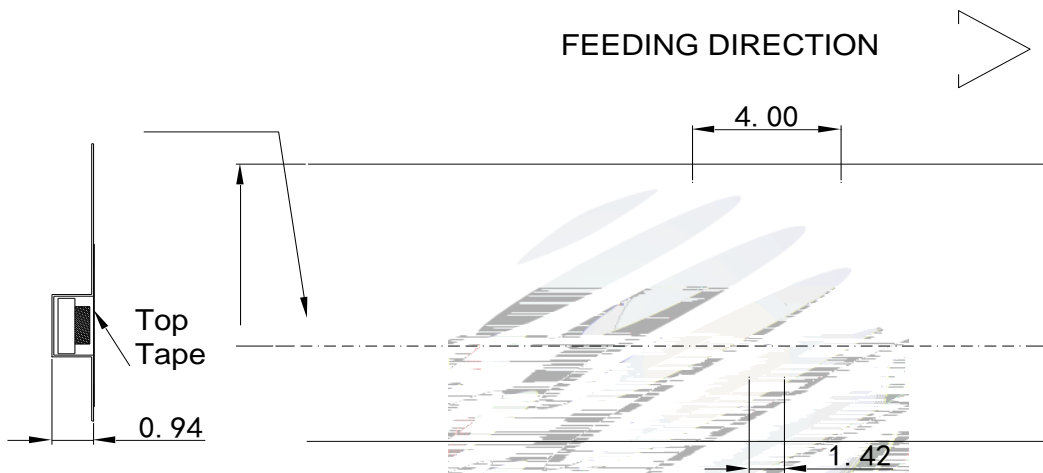


Fig.2-1 Carrier Tape Dimension 载带尺寸

2.1.2 Reel Dimension 卷盘尺寸

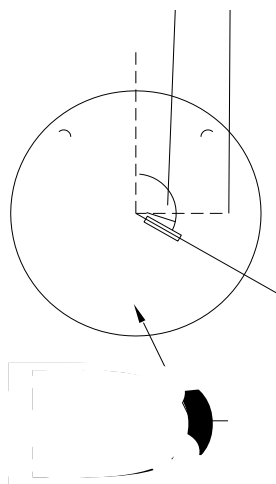


Fig.2-2 Reel Dimension 卷盘尺寸

Table 2-1 Dimension 尺寸

A	8.0±0.1mm
B	178±1mm
C	60±1mm
D	13.0±0.5mm

Notes 备注

The tolerances unless mentioned ±0.1mm. Unit : mm 注：未注公差为±0.1毫米，尺寸单位：毫米。



2.1.3 Label Form Specification 标签规格

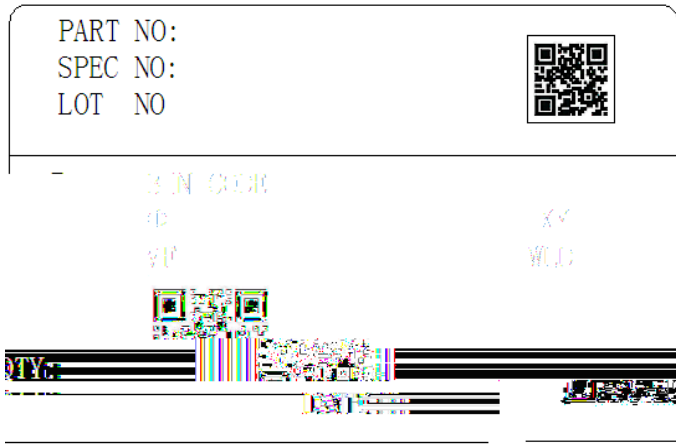


Fig. 2-3 Label Form Specification 标签规格

Table 2-2 Parameter 参数

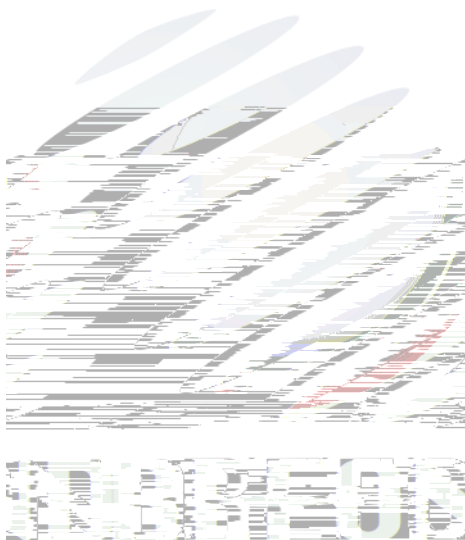
PART NO.	Part Number 品名
SPEC NO.	Spec Number 规格
LOT NO.	Lot Number 批次号
BIN CODE	Bin Code 参数代码
	Luminous flux 光通量
XY	Chromaticity Bin 色区
V _F	Forward Voltage 正向电压
WLD	Wavelength 波长代码
QTY	Packing Quantity 数量
DATE	Made Date 生产日期

2.2 Moisture Resistant Packing 防潮包装



Fig.2-4 Moisture Resistant Packing 防潮包装





2.5 Criteria For Judging Damage 失效判定标准

Table 2-4 Criteria For Judging Damage 失效判定标准

Test Items 项目	Symbol 符号	Test Condition 测试条件	Criteria For Judgement 判定标准	
			Min. 最小	Max. 最大
Forward Voltage 正向电压	V_F	$I_F=20mA$	-	U.S.L*)x1.1
Reverse Current 漏电流	I_R	$V_R= 5V$	-	U.S.L*)x2.0
Luminous Flux 光通量		$I_F=20mA$	L.S.L*)x0.7	-

Notes 备注

1.U.S.L: Upper standard level 规格上限 L.S.L: Lower standard level 规格下限

2.The above reliability tests is based on the verification of a single/strip LED of Refond's existing experimental platform,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 is limited to the typical characteristics and circuit examples of the referenced products. It does not constitute the warranting of industrial property nor the granting of any license. 以上技术数据仅为产品的典型值，只作为参考，不作为任何应用条件及应用方式的保证。



3. SMT Reflow Soldering Instructions SMT

3.1 SMT Reflow Soldering Instructions SMT 回流焊说明

Fig.3-1 SMT Reflow Soldering Instructions SMT 回流焊说明

Table 3-1 Parameter 参数

Average temperature rise speed 平均升温速度 (T _{max} 至 T _P)	最高3 °C/秒 Max 3 °C/ s
Preheating: minimum temperature 预热: 最低温度 (T _{min})	150 °C
Preheating: Max temperature 预热: 最高温度 (T _{max})	200 °C
Preheating: Time 预热: 时间 (T _{min} 至 T _{max})	60 - 120秒



Notes 各注事項

(1)Reflow soldering should not be done more than twice. If more than 24 hours between the two solderings , LED will be damaged. 回流焊次數不可以超過兩次，兩次回流焊的時間間隔如果超過24小時，LED可能由於吸濕而損壞。

(2)When soldering , do not put stress on the LEDs during heating.當焊接時，不要在材料受熱時用力壓膠體表面。

3.1.1 Soldering Iron 烙鐵焊接

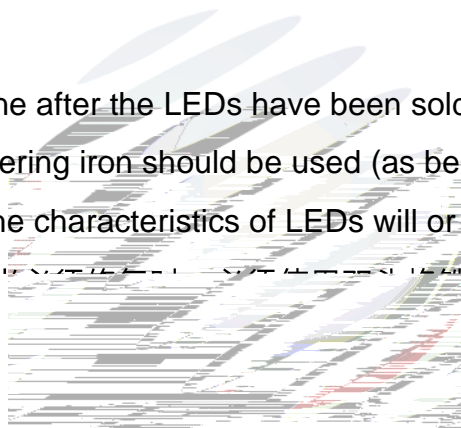
(1) When do soldering by hand, keep the temperature of iron below less 300°C less than 3 seconds 當手工焊接時,烙鐵的溫度必須小於300°C，時間不可超過3秒。

(2) Soldering by hand should be done only one time.手工焊接只可焊接一次。

3.1.2 Repairing 維修

Repairing should not be done after the LEDs have been soldered. When repairing is unavoidable,a double-head soldering iron should be used (as below figure). It should be confirmed in advance whether the characteristics of LEDs will or not be damaged by repairing.

LED 維修應在LED焊接前進行，如果必須在LED焊接後進行維修，應事先確認LED本身的特性是否會損壞LED本身的特性。



3.1.3 Cautions 注意事項

6en-US

(1) Components should not be mounted on warped (non coplanar) portion of PCB. After soldering, do not warp the circuit board.LED 燈珠不要焊接在彎曲的 PCB 板上，焊接之後，也不要彎折線板。

(2) Do not apply mechanical force or excess vibration during the c1 36 32pply mech03i6 32pc.coET E12(



4. Handling Precautions 产品使用注意事项

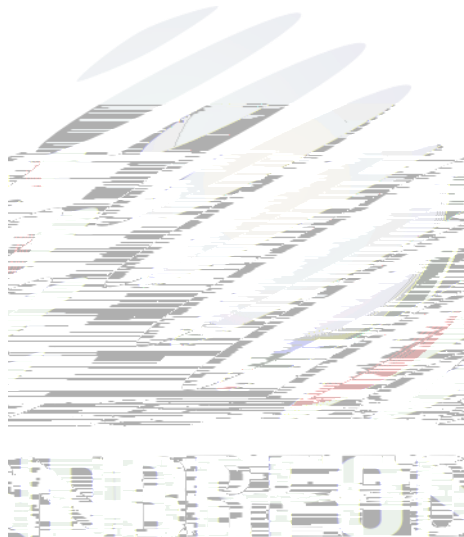
4.1 Handling Precautions 产品使用注意事项

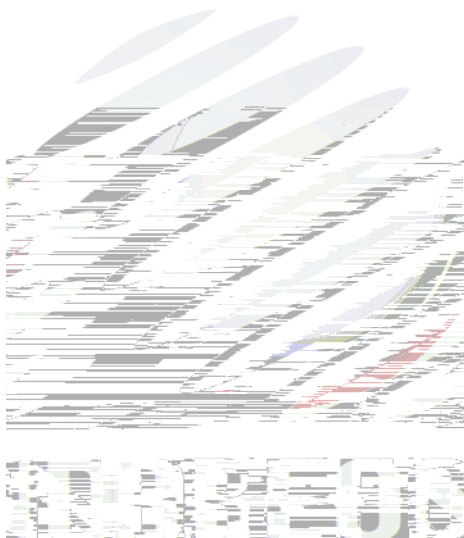
(1) LED operating environment and sulfur element composition cannot be over 100PPM in the LED mating usage material. This is provided for informational purposes only and is not a warranty or endorsement. LED 工作环境及与 LED 适配的材料中硫元素及化合物成份不可超过 100PPM. 这只是一个建议，不作任何品质担保。

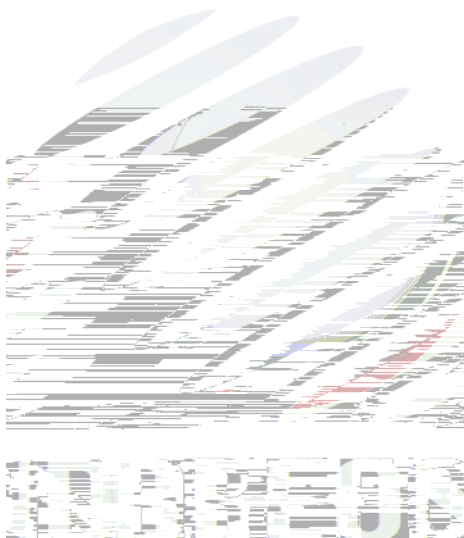
(2) In order to prevent external material from getting into the inside of LED, which may cause the malfunction of LED, the single content of Bromine element is required to be less than 900PPM, the single content of Chlorine element is required to be less than 900PPM, the total content of Bromine element and Chlorine element in the external materials of the application products is required to be less than 1500PPM. -

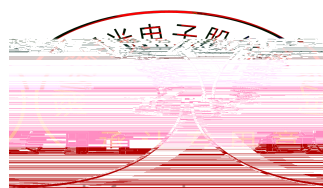


(4) In designing a circuit,the current through each LED can not









Declare 申明

This specification is written both in English and in Chinese and the latter is formal.

产品规格书以中英文方式书写，若有冲突以中文版本为准。