

SPECIFICATION

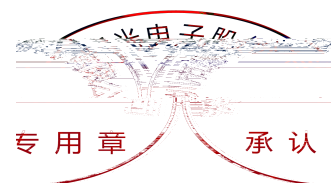
产品规格书

REFOND P/N 产品型号

RF-BNS150TS-CE

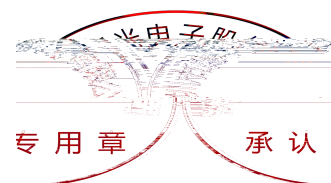
R&D 研发

Mass Product 量产供货



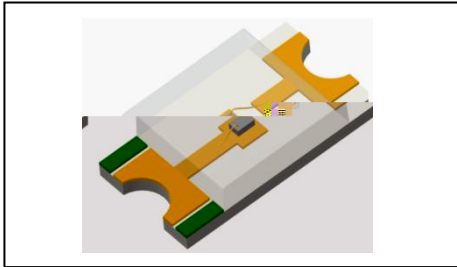
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1. Description 产品介绍

1.1 General Description 产品描述



The Colour LED which was fabricated using a blue chip, Package Dimension : 3.2mmX1.6mmX0.7mm.

该产品为色光 LED，是由蓝光芯片封装形成，产品尺寸：3.2mmX1.6mmX0.7mm。

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

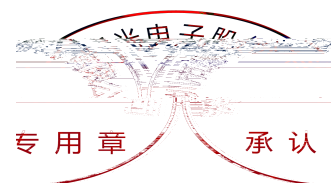
RoHS compliant. 满足RoHS要求

1.3 Application 产品应用

Optical indicator. 光电指示

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

General use. 其他应用





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	$I_F=20\text{mA}$	Δ	--	15	--	nm	
Forward Voltage 正向电压	$I_F=20\text{mA}$	V_F	G1	2.8	--	2.9	V
			G2	2.9	--	3.0	V
			H1	3.0	--	3.1	V
			H2	3.1	--	3.2	V



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

Table 1-2 Absolute Maximum Ratings at Ts=25°C 绝对最大值

Parameter (参数)	Symbol (符号)	Rating (值)	Units (单位)
Power Dissipation (功耗)	P_d	105	mW
Forward Current (正向电流)	I_F	30	mA
Peak Forward Current Of Pulse (脉冲峰值电流)	I_{FP}	60	mA
Electrostatic Discharge (HBM) (静电)	E_{SD}	1000	V
Operating Temperature (操作温度)	T_{opr}	-40 ~ +85	°C
Storage Temperature (储存温度)	T_{stg}	-40 ~ +85	°C
Junction Temperature (结温)	T_j	95	°C

Notes 备注:

- 1/10 Duty cycle, 0.1ms pulse width. 脉宽0.1ms,占空比1/10.
- The above forward voltage measurement allowance tolerance is $\pm 0.1V$. 以上所示电压测量误差 $\pm 0.1V$.
- The above dominant wavelength measurement allowance tolerance is $\pm 2nm$. 以主波长测量误差 $\pm 2nm$.
- The above luminous intensity measurement allowance tolerance $\pm 10\%$. 上述发光强度的测试允许公差为 $\pm 10\%$.
- 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。
- All measurements were made under the standardized environment of Refond. 现有的所有测试都是基于瑞丰标准测试平台。
- When the LEDs are in operation the maximum current should be decided after measuring the package temperature, junction temperature should not exceed the maximum rate. LED使用的最大电流需要根据散热条件确定, 结温不能超过最大值。


 专用章 承认



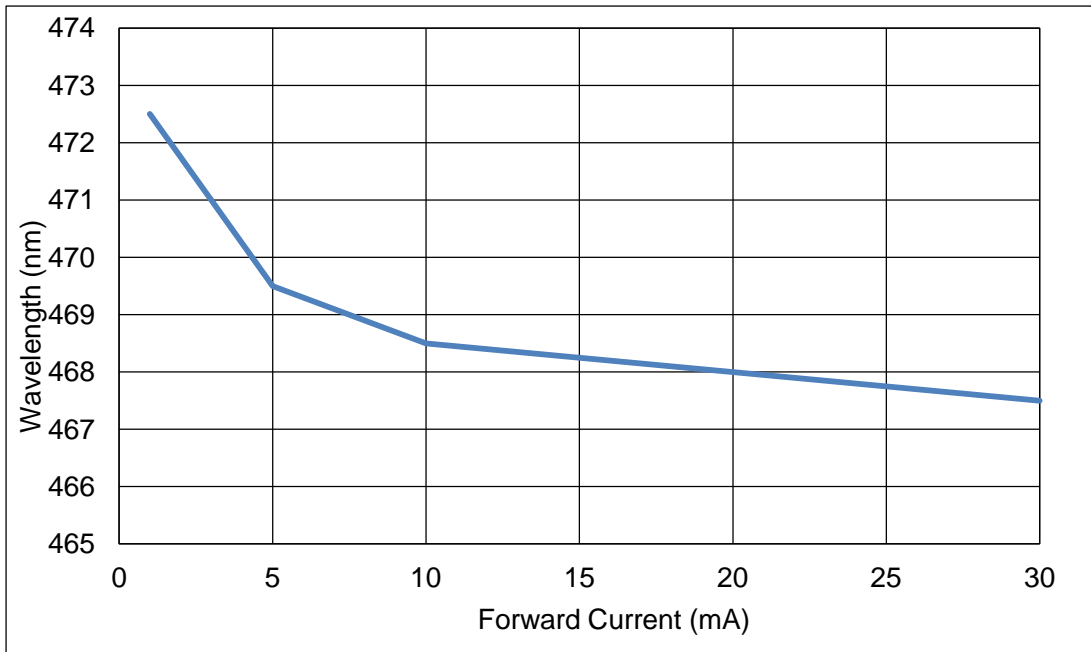


Fig 1-10 Forward Current Vs Dominate Wavelength (Ta=25°C) 正向电流与主波长关系曲线

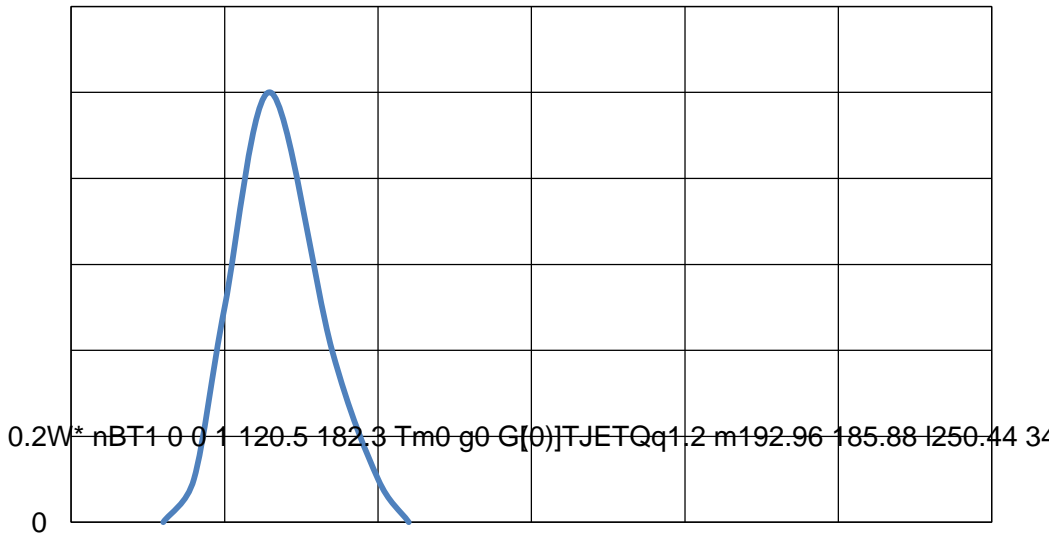
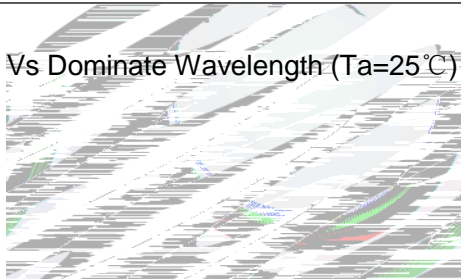


Fig 1-11 Relative Intensity Vs Wavelength (Ta=25°C) 相对光强与波长关系曲线

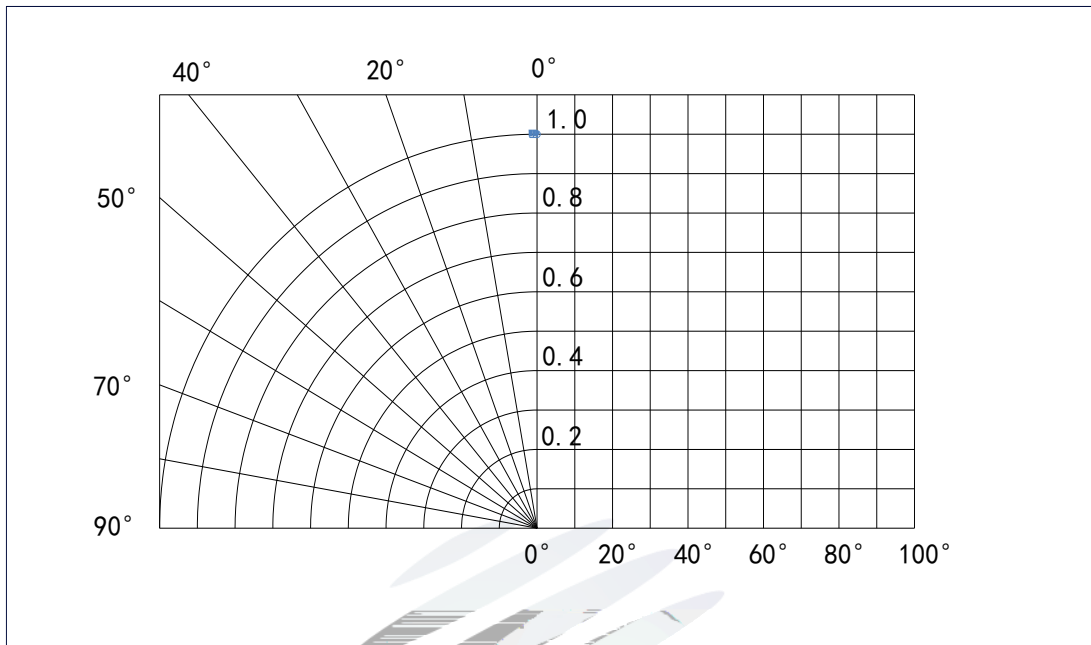
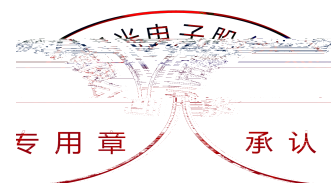
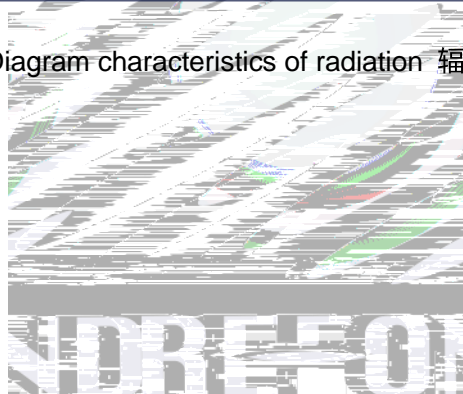


Fig 1-12 Diagram characteristics of radiation 辐射特性曲线



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

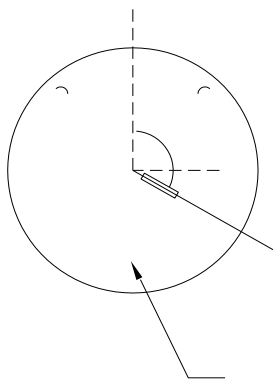


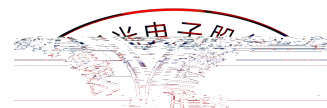
Fig.2-2 Reel Dimension 卷盘尺寸

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 $\pm 0.1\text{mm}$. Unit : mm 注：未注公差为 ± 0.1 毫米，尺寸单位：毫米。



專用章 承認

2.1.3 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

Fig. 2-3 Label Form Specification 标签规格

2.2 Moisture Resistant Packing 防潮包装



Fig.2-4 Moisture Resistant Packing 防潮包装

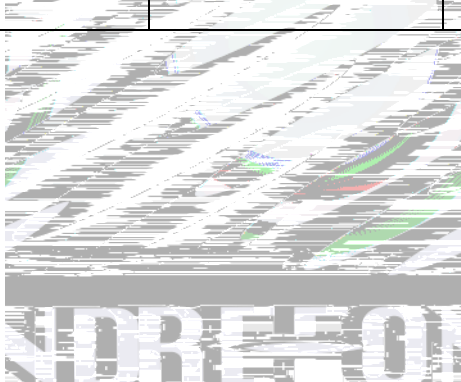


2.5 Criteria For Judging Damage 失效判定标准

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



3. SMT Reflow Soldering Instructions SMT

3.1 SMT Reflow Soldering Instructions SMT 回流焊说明

C / P D 飛

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 60s-120s
Time limited to maintain high temperature: the temperature限制高温: 限时温度(T _L)	217 °C
Time limited to maintain high temperature: The Time 限时维持高温: 时间 (t _L)	最多60秒 Max 60s
Peak /Classification of temperature:峰值 / 分类温度 (T _P)	260 °C

Notes 备注:

(1)Reflow soldering should not be done more than twice. If more than 24 hours between the two solderings , LED will be damaged. 回流焊次数不可以超过两次, 两次回流焊的时间间隔如果超过24小时, LED可能由于吸湿而损坏。

(2)When soldering , do not put stress on the LEDs during heating.当焊接时, 不要在材料受热时用力压胶体表面。

3.1.1 Soldering Iron 烙铁焊接

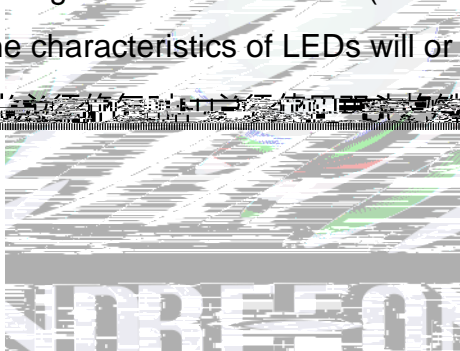
(1) When do soldering by hand, keep the temperature of iron below less 300°C less than 3 seconds 当手工焊接时,烙铁的温度必须小于300°C, 时间不可超过3秒。

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

3.1.2 Repairing 维修

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.

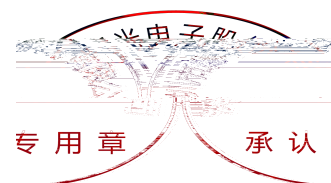
LED回流焊后不宜进行维修,维修时必须使用双头烙铁,而且事先应确认维修是否会损坏LED本身的特性。



3.1.3 Cautions 注意事项

(1) Components should not be mounted on warped (non coplanar) portion of PCB. After soldering, do not warp the circuit board.LED 灯珠不要焊接在变曲的 PCB 板上, 焊接之后, 也不要弯折线板。

(2) Do not apply mechanical force or excess vibration during the cooling process to normal temperature after soldering. Do not rapidly cool device after soldering.回流焊之后冷却过程中, 不要对材料施加外力, 也不要震动, 回流焊后, 不要采用激剧冷却的方式。

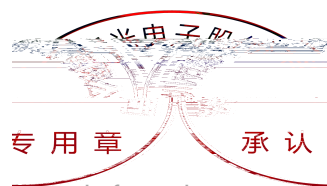




(4) In designing a circuit,the current through each LED can not







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。