

承認書

SPECIFICATION FOR APPROVAL

● 客戶名称

● Customer

● 客戶品號

● Customer Part No.

● 產品品號

HC-T-2835A04-B4AB

● Brightek Part No.

● 產品規格描述

2835 贴片蓝光 0.2W

● Specification

● 製錶人

王清

● Prepared By

● 審核

李东平

● Checkedy

● 客戶回簽

● Customer

● 送样日期:

● Deliver date:

說明: 一、謹致執事者: 茲提供敝公司產品之有關詳細規格及圖面資料, 敬請給予辦理測試認定手續。

同時敬請 送返一份附有貴公司簽認之測試認定後之樣品認定書。

We are sending you our specification and drawings for your approval. Please return to us one

copy "For Approval" with your approved signatures.

二、客戶意見欄 Customer' S Proposal

☐ Approve 承認 (請於認可欄中簽名)

☐ Disagree 不同意

Reason 原因:

光宇集团

中高端光电元件定制企业, 20 多年封装经验, 品质稳定, 值得信赖, 体现

光宇集团国际(香港)有限公司

GTU Group International (HK) Co., Limited

广东光宇半导体科技有限公司

工厂地址: 东莞市寮步镇松湖智谷 A2 栋 3 楼

东莞市弘呈光电有限公司

DongGuan Hong cheng Optoelectronics Co., Ltd.

工厂地址: 广东省东莞市樟木头镇莞樟路樟木头段 15 号 15 栋 2108 号

ADD: Room 2108, No. 1 building, Wanhui Garden, East Guanzhang Road, Zhangmutou, Dongguan, Guangdong, China

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业务联系人: 李顺阳 13925714318 (微信同号) 销售总监 企业邮箱: sales@led-hc.com



版本/版次	修改日期	修改内容

■ Features (特征)

- Package Size: 3.5 (L) × 2.8 (W) × 0.8 (T) mm

封装尺寸: 3.5(长)*2.8(宽)*0.8(高)mm

- Suitable for different working environment

适合不同的工作环境

- Low power consumption and wide viewing angle

低功耗宽发光角度

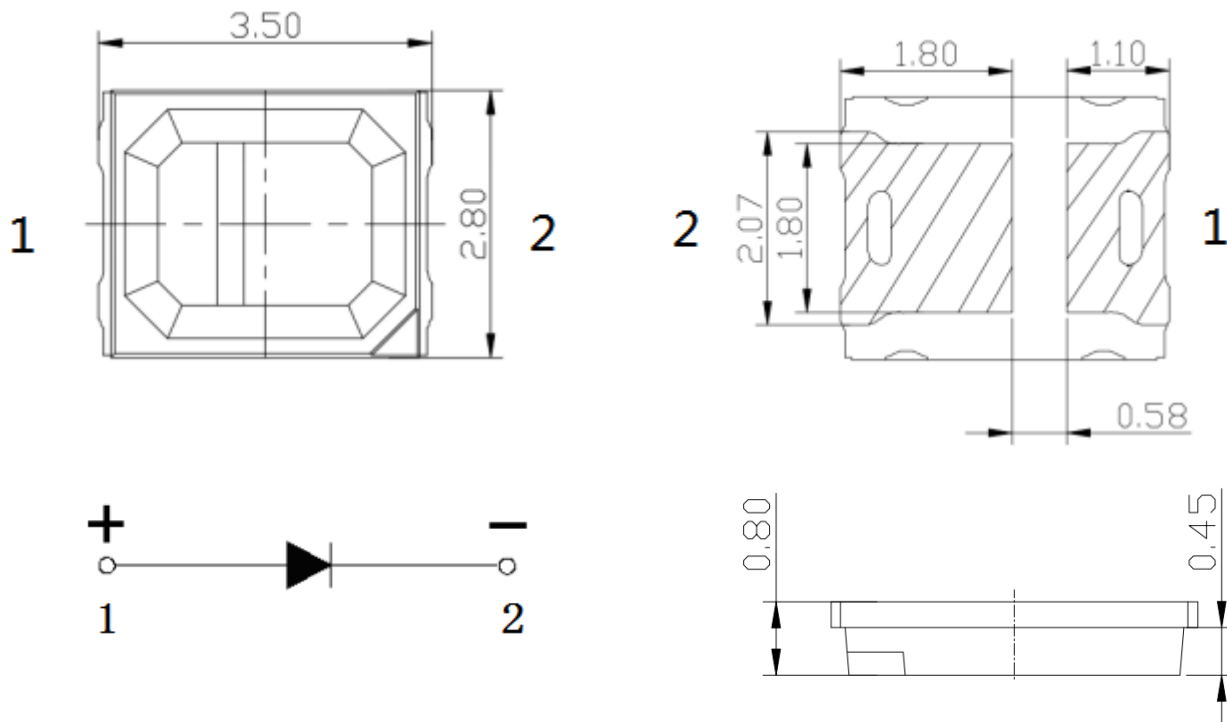
- This product doesn't contain restriction Substance, comply ROHS standard

本产品不含限制物质, 符合 ROHS 标准

■ Applications (应用)

- Flat backlight for LCD (液晶显示器)
- Backlight for LCD, switch and Symbol, display
(LCD 背光、转换器, 开关和标志, 显示器等)
- Other illumination and displays (其它照明和显示)

■ Package Dimensions (封装尺寸)



Notes: (备注)

1. All dimensions are in millimeters (所有标注尺寸单位为毫米)
2. All dimensions tolerance are ± 0.25 mm unless otherwise noted. (除特别标注外, 所有尺寸允许公差 ± 0.25 mm)

Selection Guide 选择指南

Part No. 型号	Material 材质	Color		Luminous Flux(lm) 光通量@150mA			Viewing angle 发光角度
		Emitting color 发光颜色	Lens color 胶体颜色	Min	Typ	Max	2θ1/2
HC-T-2835A04-B4AB	AlInGaP	Blue	Water Clear	3	---	6	----

Notes: (备注)

1. the above 2 θ 1/2 measurement allowance tolerance $\pm 5^\circ$

上述发光角度的测试允许误差为 $\pm 5^\circ$

2. the above luminous flux measurement allowance tolerance $\pm 10\%$

上述光通量的测试允许误差为 $\pm 10\%$

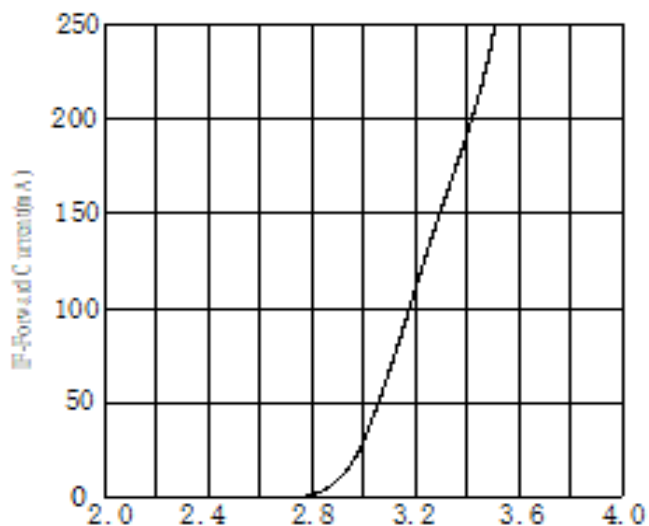
Absolute Maximum Ratings at Ta = 25°C 绝对最大额定值

Parameter(参数)	Symbol(符号)	Rating(值)	Unit(单位)
Peak forward current (峰值正向电流)	IF	150	mA
Power Dissipation (功耗)	Pd	200	mW
Reverse Voltage (反向电压)	VR	5	V
Electrostatic Discharge (静电)	ESD	2000	V
Operating Temperature (操作温度)	Topr	-25~+85	°C
Storage Temperature (保存温度)	Tstg	-40~+100	°C

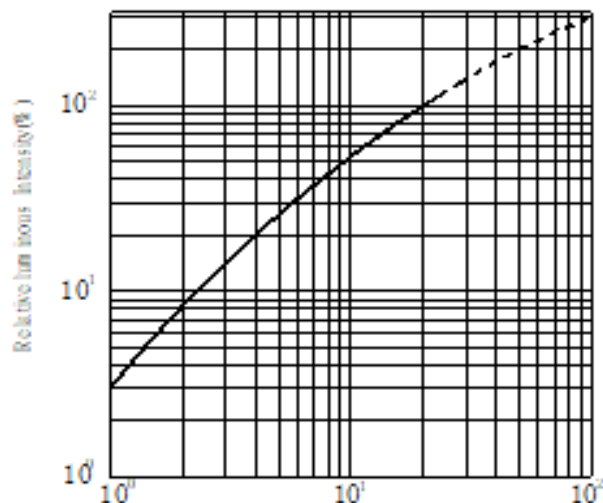
Typical Optical/Electrical Characteristics at Ta=25°C 光电特性

Parameter 参数	Symbol 符号	Test Conditions 测试条件	Min. 最小	Typ. 平均	Max. 最大	Tolerance 公差	Unit 单位
Forward voltage 正向电压	VF	IF=60mA	2.8		3.4	± 0.05	V
Reverse current 反向电流	IR	VR=5V	--	--	5	± 0.1	μA
Dominant wavelength 主波长	WLD	IF=60mA	460	--	470	± 1	nm
Spectrum line half width 半波宽	$\Delta\lambda$	IF=60mA	--	--	--	/	nm

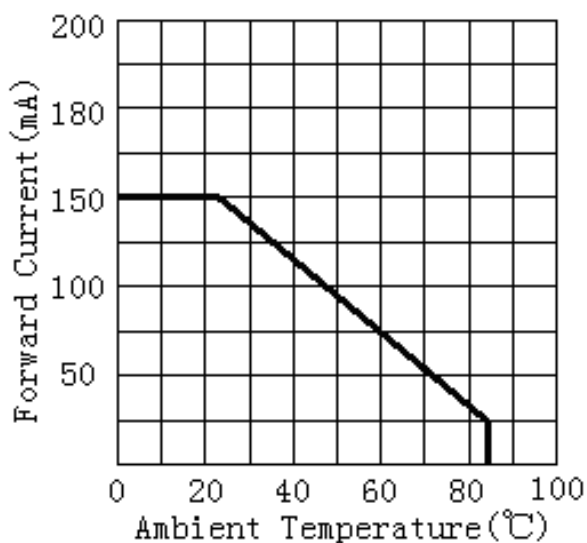
■ Typical Electro-Optical Characteristic Curves: 典型光/电特性曲线



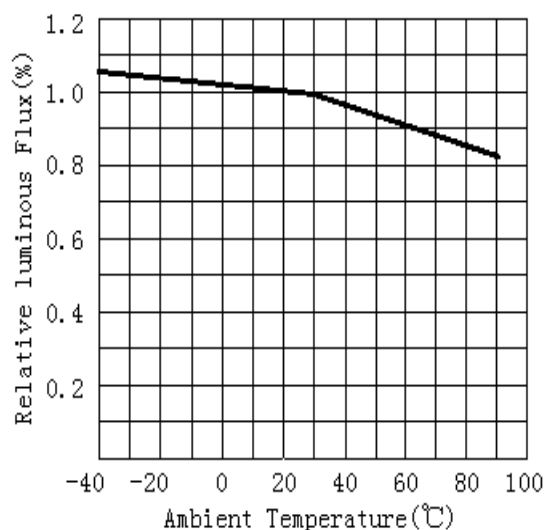
Forward Current VS. Forward Voltage
电压与电流关系曲线图



Relative Luminous Flux VS. Forward Current
亮度与电流关系曲线图

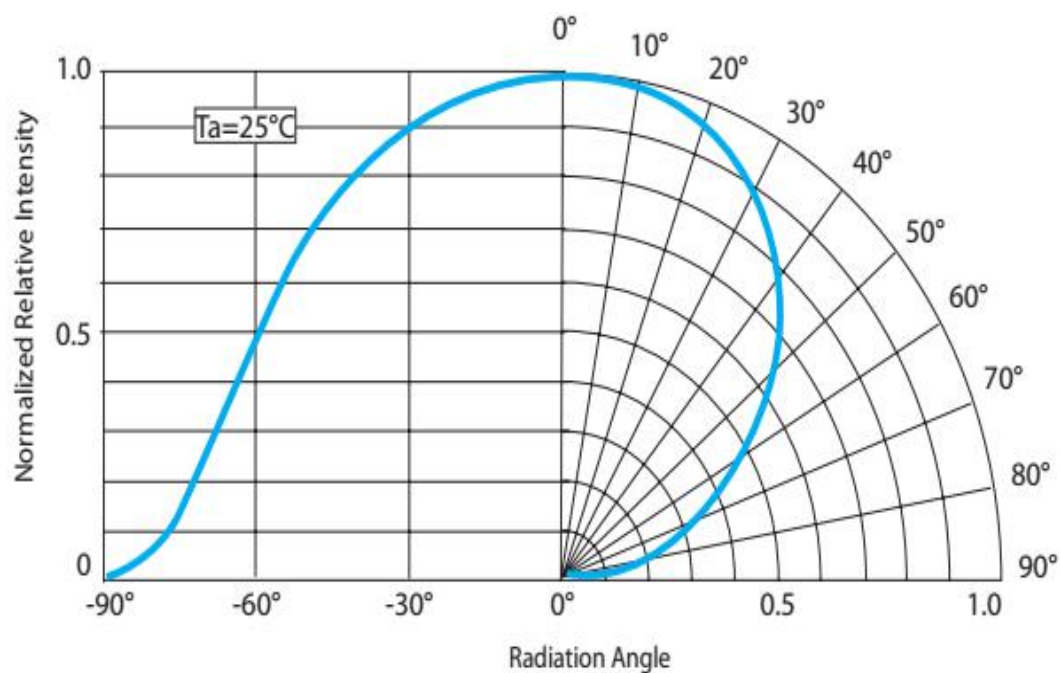


Forward Current VS. Ambient Temperature
电流与温度关系曲线图

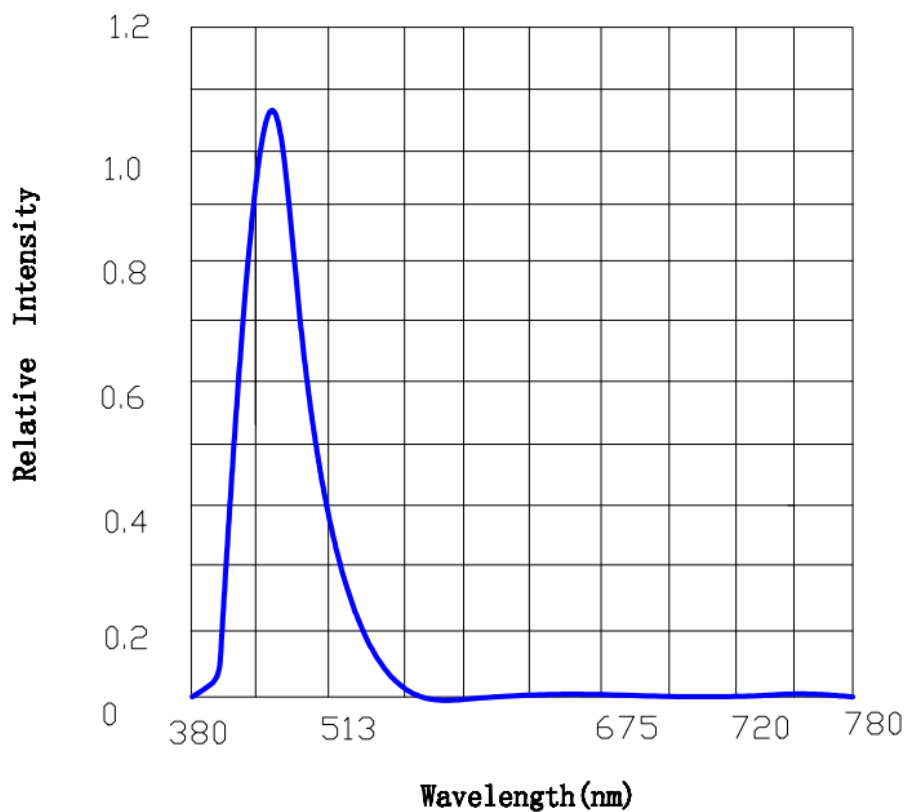


Relative Luminous Flux VS. Ambient Temperature
温度与亮度关系曲线图

Typical Spectral Distribution 发光角度图 (极坐标)



Spectral Distribution 光谱分布图



■ Reliability test items and conditions: 信赖性测试项目及条件

The reliability of products shall be satisfied with items listed below. 产品的可靠性应满足于下列项目

Confidence level: 97% 信赖级别: 97%

NO	Item 项目	Test Conditions 测试条件	Time 时间	Quantity 数量	Ac/Re 接受/拒收
1	IR-Reflow 回流焊	TEMP : 245°C ± 5 °C	10 Sec	22 PCS	0/1
2	Temperature Cycle 温度循环	H : +100°C 15min ∫ 5 min L : -40°C 15min	300 Cycles	22 PCS	0/1
3	Thermal Shock 冷热冲击	H : +100°C 5min ∫ 10 sec L : -10°C 5min	300 Cycles	22 PCS	0/1
4	High Temperature Storage 高温储存	TEMP : 100°C	1000 Hrs	22 PCS	0/1
5	Low Temperature Storage 低温储存	TEMP : -40°C	1000 Hrs	22 PCS	0/1
6	DC Operating Life 寿命实验(直流)	TEMP : 25°C	1000 Hrs	22 PCS	0/1
		I _F = 60mA			
7	High Temperature / High Humidity 高温高湿	85°C / 85% RH	1000 Hrs	22 PCS	0/1

*The technical information shown in the data sheets are 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.

* 数据工作表中所示的技术信息仅限于典型特征和电路实例引用的产品.它既不构成工业特性的保证,也不构成任何许可的授权

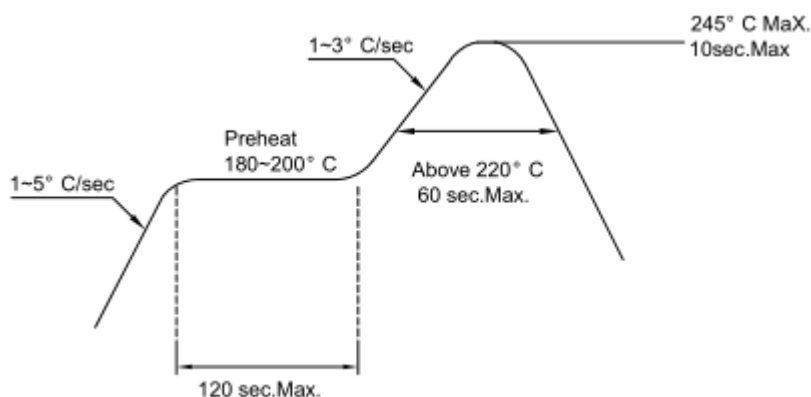
Criteria For Judging Damage 失效判定标准

Item 项目	Symbol 符号	Test Conditions 测试条件	Criteria for Judgement 判定标准	
			Min	Max
Forward Voltage 正向电压	VF	IF=60mA		U.S.L*)x1.1
Reverse Current 反向电流	IR	VR=5V		U.S.L*)x2.0
Luminous Flux 光通量	LM	IF=60mA	L.S.L*)x0.7	

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

Soldering Conditions 焊接条件

SMT Reflow Soldering Instructions SMT 回流焊说明



1. Reflow soldering should not be done more than two times. many times reflow soldering has destructive effect to the product

回流焊不可以做两次以上，多次回流焊对产品有破坏性作用

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

Hand Solder&Repairing 手动焊接&修补

1. Hand Solder should not be using hand soldering iron, suggest using heating operation, the use of solder paste melting point under 220 °C, the heating temperature set less than or equal to 250 °C, the time is not more than 10 s, a welding is complete, multiple welding products are destructive

手动焊接不宜用手动烙铁，建议用加热台作业，使用的锡膏熔点在 220℃以下，加热台温度设定小于等于 250℃，时间不可超过 10s，一次焊接完成，多次焊接对产品有破坏性。

2. Handle the component along the side surface by using forceps or appropriate tools; do not directly touch or Handle the silicone lens surface, it may damage the internal circuitry.

通过使用适当的工具从材料侧面夹取，不可直接用手或尖锐金属压胶体表面，它可能会损坏内部电路



■ Cautions 注意事项

Storage condtion

1. The operation of Temperatures and RH are : $\leq 30^{\circ}\text{C}$, RH<60%.

温度和湿度条件: $\leq 30^{\circ}\text{C}$, RH<60%.

2. Once the package is opened, the products should be used within 8hours, Otherwise, more than the dehumidification process, dehumidifying conditions: reel 70 °C / 6 ~ 8 h, bulk LED150 °C / 3 h

包装被打开后，产品应在 8H 内使用完，否则超过则需除湿处理，除湿条件：卷盘 70℃/6~8H，散装 LED 150℃/3H

3. Considering the operation environment of temperature and humidity ,we suggest our customers to use our products within three months (from production date), More than 3 months with toasted constant temperature 70 °C $\pm$ 5 °C for 6 ~ 8 hours desiccant (need to get rid of aluminum foil bag packing).

考虑到作业环境的温湿度，我们建议客户在三个月内将产品使用完（从生产日期开始），超过 3 个月先用 70℃ & 6~8 小时进行恒温烘烤除湿（需除掉包装铝箔袋）

4. The outer diameter of the SMD pickup nozzle should not exceed the size of the LED to prevent air leaks. The inner diameter of the nozzle should be as large as possible. A pliable material is suggested for the nozzle tip to avoid scratching or damaging the LED surface during pickup. The dimensions of the component must be accurately programmed in the pick-and-place machine to insure precise pickup and avoid damage during production.

为防止气压泄漏，SMD 吸咀外径不可以超过 LED 尺寸，吸咀内径尺寸应尽可能大，吸咀顶端材质建议采用柔软材料以防在吸取期间刮伤或损坏 LED 胶体表面，元件的尺寸必须在取放机里准确的编程好，以确保精确的吸取和避免生产过程中的损害



5. LED operating environment and sulfur element composition cannot be over 100PPM in the LED mating usage material.

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

6. When we need to use external glue for LED application products, please make sure that the external glue matches the LED packaging glue. Additionally, as most of LED packaging glue is silica gel, and it has strong Oxygen permeability as well as strong moisture permeability; 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 glue of the application products is required to be less than 1500PPM

当我们需要使用外封胶涂抹 LED 产品时，应确保外封胶与 LED 封装胶水相匹配，因为大多数 LED 的封装胶水为硅胶，它有较强的氧化性和较强的吸湿性，必须防止外封材质进入 LED 内部以造成 LED 的损伤，单一的溴元素含量要求小于 900PPM，单一氯元素含量要求小于 900PPM，在涂抹 LED 产品时要求外封胶溴元素与氯元素总含量必须小于 1500PPM

7. Please note that the electrostatic protection during processing, All devices, equipment and machinery must be properly grounded.

操作过程中请注意静电防护，所有的装置，仪器和机器必须妥善接地

Products use 产品使用

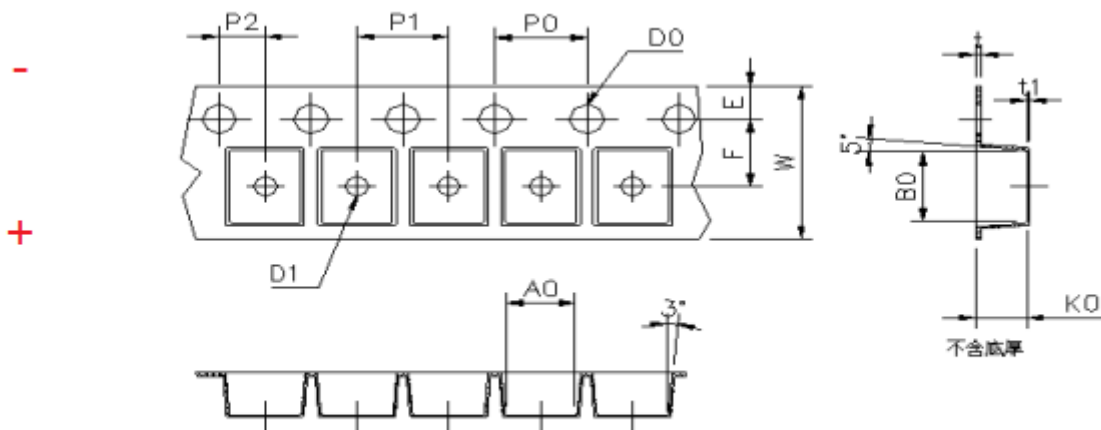
1. LED unfavorable use by constant voltage or more LED directly to the parallel use, advising clients to use in constant current mode.

LED 不宜用定电压的方式使用或者多颗 LED 直接并联方式使用，建议客户用定电流方式使用。

2. When using LED products, please note that according to the grades of the same (voltage, brightness, color temperature) code together, different grades and different batches should be confirmed to meet customers' requirements to mix stick, lest produce color difference or brightness difference.

使用 LED 产品时，请注意按相同等级（电压、亮度、色温）代码组装在一起，不同等级及不同批次需确认可满足客户要求才能混贴，以免产生色差或亮度差异。

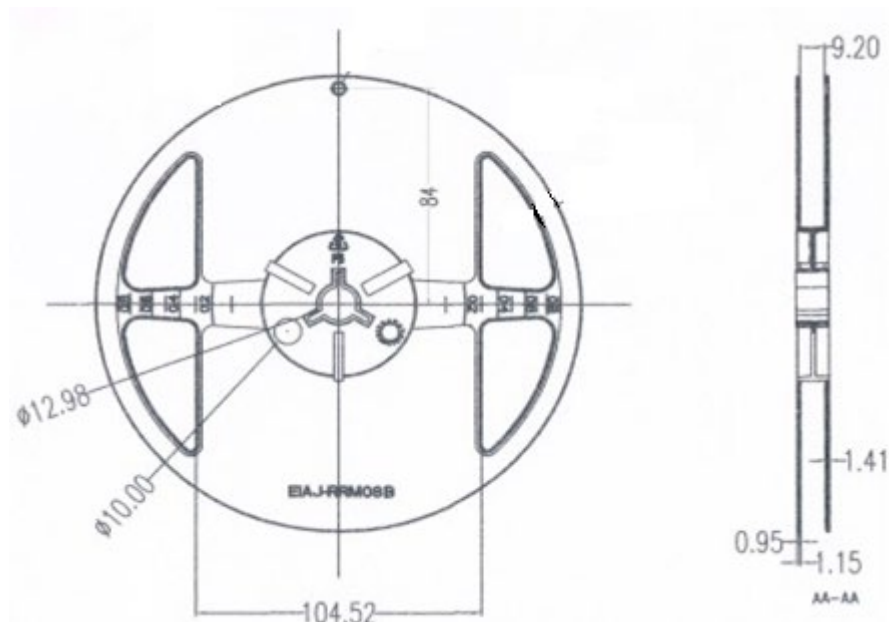
■ Tape Specifications (Units : mm) 载带规格（单位：mm）



NOTES

1. Empty component pockets are sealed with top cover tape;
无材料部分同样用上封带密封
2. The maximum number of missing lamps is two;
一卷材料最大差异数为2
3. The cathode is oriented towards the tape sprocket hole
材料负极方向与卷带齿孔方向一致
4. 4000 pcs/ Reel OR 20000 pcs/ Reel.
4000pcs/卷或者 20000pcs/卷

■ Reel Specifications (Units : mm) 卷盘规格 (单位: mm)



■ Moisture Resistant Packaging 防潮袋包装

