



产品规格承认书

Product Specification

产品名称/Product Name: LAMP ϕ 5mm 产品

文件编号/Document Number: PDS- P0513A-BW-H3P3-T0

版本号/Version Number: B0

页数/Page Number: 共 10 页

色容差/ SDCM : 无

机差/Tolerance : () 无机差 () 有机差

产品应用/Product Application: _____

客户要求/Customer Requirement: 1. _____

2. _____ 3. _____

源磊 Runlite		客户 Customer	
制作 Prepared	林跃敏	工程 Engineering	客户代码:
审核 Checked	Fealty zhu	品质 Quality	
批准 Approved		批准 Approved	

注: 此页和最后一页也为签核部分, 请全部签核并盖章后回传到我司, 谢谢。

LAMP ϕ 5mm 单芯系列规格书

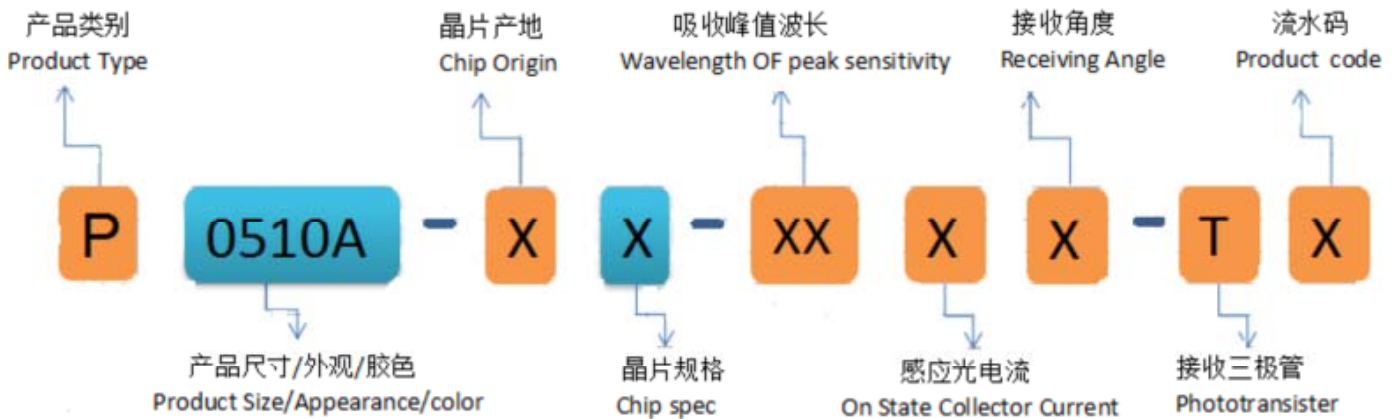
LAMP ϕ 5mm Single Chip Data Sheet

● 特性 Features

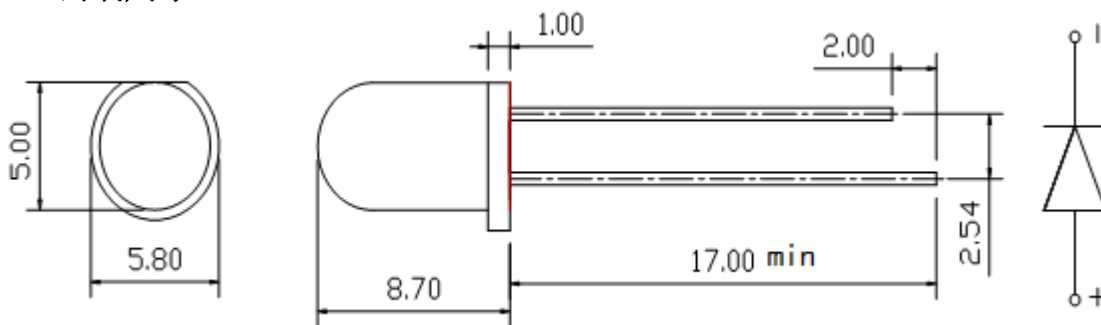
8.7mm长*5.0mm宽
 包装: 1000PCS 一包
 晶片材质: Silicon
 胶体颜色: 无色透明
 工作温度: -40~80度
 低功率
 可做不同的种类.
 胶水: 环氧胶
 储存温度-40~+100度

8.7mm*5.0mm LAMP LED, Thickness.
 Package: 1000PCS/Package
 Chip material: Silicon
 Lens color: water clean
 Operating Temperature: -40~+80°C
 Low Power Consumption
 Various Colors And Types Available.
 Resin (Mold): Epoxy resin
 Storage Temperature: -40~+100°C

● 产品编码解说 Product Definition Code



● 封装尺寸 Dimension



Note:

图中所有尺寸均以毫米为单位 All dimensions are in millimeter
 所有的标示尺寸仅供参考, 除了有特别标注外, 尺寸公差为±0.25 毫米。
 All dimensions for reference only, dimensions are in mm tolerance is ±0.25mm unless otherwise noted.
 多胶不超过0.5 毫米. Burr around bottom of epoxy may be 0.5mm max.

● Applications /应用:

Infrared applied system / 红外应用系统
Camera / 相机
Cockroach catcher / 捕捉器

● 极限参数 (温度=25°C) Absolute maximum ratings at Ta=25°C

项目 Item	符号 Symbol	极限参数 Absolute Maximum Rating	单位 Unit
集电极-发射极电压 Collector-Emitter Voltage	V _{CEO}	30	V
发射极-集电极电压 Emitter-Collector-Voltage	V _{ECO}	5	V
操作温度 Operating Temperature	T _{opr}	-40~80	°C
储存温度 Storage Temperature	T _{stg}	-30~100	°C
功耗 Power Dissipation at (or below) 25°C Free Air Temperature	P _c	75	mW

● 光电参数 (温度=25°C) Optical-Electrical Characteristics at Ta=25°C

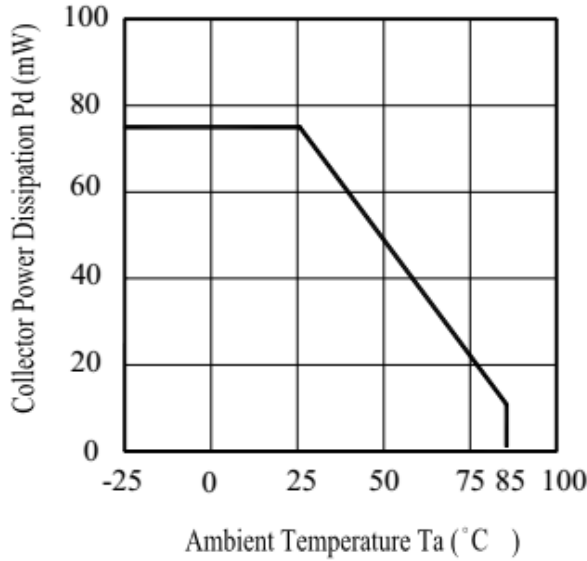
参数名称 Parameter	符号 Symbol	数值 Value			单位 Unit	测试条件 Test condition
		Min.	Typ.	Max.		
频谱带宽 Range Of Spectral Bandwidth	λ 0.5	400	-	1100	nm	-
吸收峰值波长 Wavelength Of Peak Sensitivity	λ p	-	940	-	nm	-
集电极-发射极击穿电压 Collector - Emitter Breakdown Voltage	BV _{CEO}	30	-	-	V	Ee=0mW/cm2 Ic=100 μ A
发射极-集电极击穿电压 Emitter - Collector Breakdown Voltage	BV _{ECO}	5	-	-	V	Ee=0mW/cm2 Ie=100 μ A
集电极-发射极饱和电压 Collector - Emitter Saturation Voltage	V _{CE(sat)}	-	-	0.4	V	Ic=2mA Ee=1mW/cm2
集电极暗电流 Collector Dark Current	I _{CEO}	-	-	100	nA	Ee=0mW/cm2 V _{CE} =20V
光电流 On State Collector Current	I _{c(on)}	-	3.0	-	mA	Ee=1mW/cm2 V _{CE} =5V
上升时间/下降时间 Rise Time/ Fall Time	tr / tf	-	15	-	ns	V _R =5V Ic=1mA RL=1000 Ω

● Recommended soldering conditions 推荐焊接条件

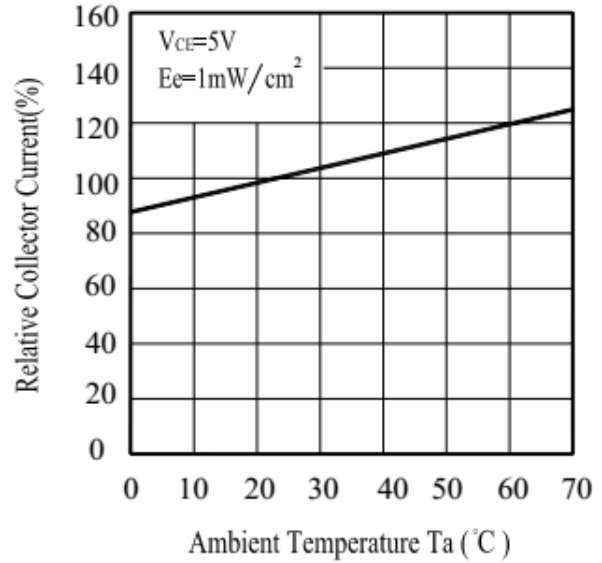
焊接模式 Mode		Fixed form 固定形式
Hand Soldering 手工焊接	Temperature .at tip of iron 电烙铁温度	300°CMax. (30WMax.) 最高温度300°C (功率不超过30 瓦)
	Soldering time 焊接时间	3 sec Max. 时间不超过3 秒
	Distance 焊接位置	3mm Min. (From solder joint to case) 大于3 毫米 (从焊点到胶体)
DIP Soldering 锡炉焊接	Preheat temperature 预热温度	100°C Max. (60 sec Max.) 最高温度100°C (不超过60 秒)
	Soldering temperature 浸焊温度	260°C Max 最高260°C
	Soldering time 浸焊时间	3 sec Max. 不超过3 秒
	Distance 浸焊位置	2mm Min 大于2 毫米
Wave Soldering 波峰焊接	Preheat temperature 预热温度	100°C Max. (60 sec Max.) 最高温度100°C (不超过60 秒)
	Soldering temperature 浸焊温度	260°C Max. 最高260°C
	Soldering time 焊接时间	5 sec Max. 不超过5 秒

- 典型光电特性曲线 Typical Optical-Electrical Characteristics curves
环境参数 Environment Parameter: 温度 Temperature=25°C, 湿度 Humidity=60%

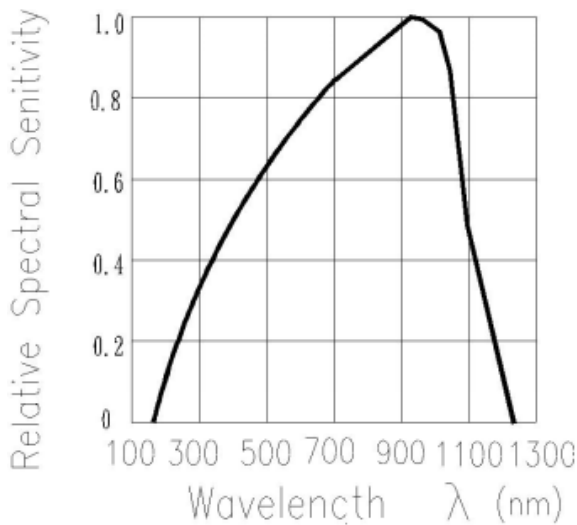
集电极耗散与温度特性曲线
collector_dissipation vs Ambient Temperature



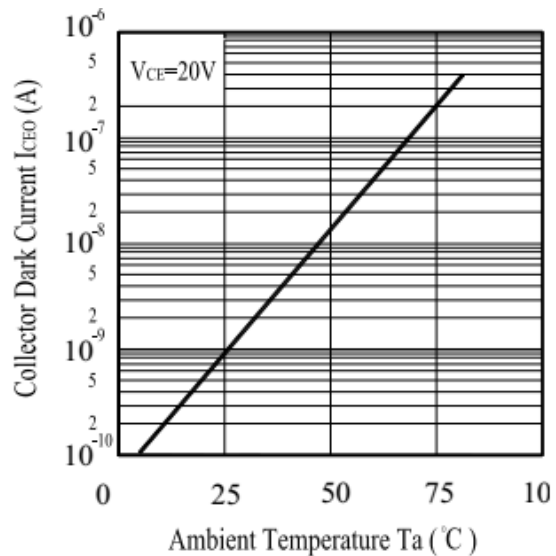
相对集电极电流与环境温度曲线
Relative Collector Current vs. Ambient Temperature



光谱特性曲线图
Relative Spectral Distribution



集电极暗电流与环境温度曲线
Relative Intensity vs. Radiation Angle



● 信赖性测试项目及标准 Test items and results of reliability

测试项目 Test Item	测试条件 Test Conditions	持续周期 Duration/Cycle	数量 Quantity	接收/拒收 Ac/Re
温度循环 Temperature	-40°C 30min ↑ ↓ 25°C (2min) 100°C 30min	循环 100 次 100 times	22pcs	0/1
冷热冲击 Thermal Shock	-40°C 30min ↑ ↓ 5sec 100°C 30min	循环 100 次 100 times	22pcs	0/1
高温储存 High Temperature Storage	Ta=100°C	1000 小时 1000 hours	22pcs	0/1
高温高湿 Humidity Heat Storage	Ta=85°C RH=85%	1000 小时 1000 hours	22pcs	0/1
低温储存 Low Temperature Storage	Ta=-40°C	1000 小时 1000 hours	22pcs	0/1
常温老化 Room Temperature Test	Ta=25°C	1000 小时 1000 hours	22pcs	0/1
高温高湿老化 High Humidity Heat Test	60°C RH=90%	1000 小时 1000 hours	22pcs	0/1
低温老化 Low Temperature Test	Ta=-40°C	1000 小时 1000 hours	22pcs	0/1

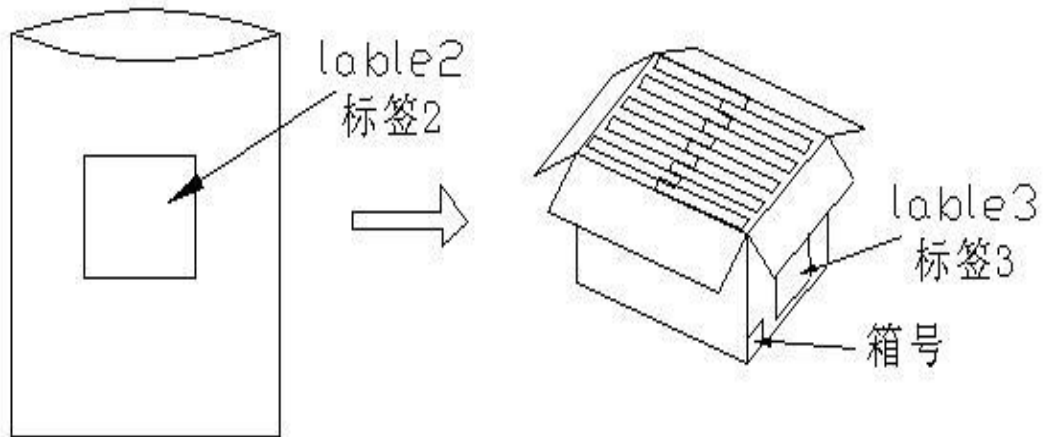
● 失效判断标准 Criteria for judging the Damage

项目 Item	符号 Symbol	条件 Condition	失效判断标准 Criteria for Judgement	
			下限 MIN	上限 MAX
光电流 On State Collector Current	Ic(on)	Ee=1mW/cm2 VCE=5V	LSL×0.7	---

备注[Note]:

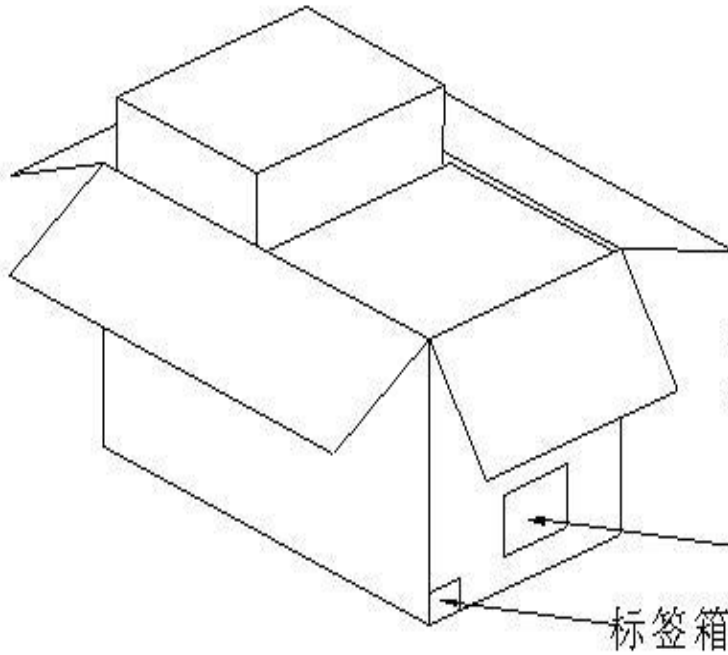
*1 LSL:标准下限值 Lower Specification Level

● 包装规格 Packaging



防静电袋:150*225mm

内中箱尺寸: 340*235*165mm



外中箱尺寸: 340*323*328mm

外大箱尺寸: 495*358*357mm

lable3
标签3

标签箱号

● 注意事项/ Caution

- 1、 After open the package, the LED should be kept at 25°C, 65 % RH environment or less.
打开包装后请在温度 25±3 °C 湿度 65±5% 的环境下使用。
- 2、 10°C-26°C, 40%-65% RH. Store the product in sealed package.
湿度 10°C~26°C, 湿度 40%~65%, 包装袋密封保存。
- 3、 The LED should be soldered within 48 hours (2 days) after opening the package.
打开包装后请在 24 小时内作焊接。
- 4、 It is recommended to use a wrist band or an antistatic glove when handling the LEDs. Operation tables must be earthed, and in order to avoid the oxidizing of the Lamp leads make sure you will seal the package soon after it is opened.
接触LED 时需戴手套或手指套, 工作台面要接地, 包装袋开口后及时封口, 防止脚位氧化
- 5、 The LAMP LED is an ESD sensitive device. All the equipment and machine must be properly grounded.
LED 是静电敏感器件, 使用时所有设备、机械都需有适当的接地导电措施。
- 6、 when make use of it, please use static-free container, operator should wear antistatic clothes and rope-satic-ring also should make effective ground.
使用时请使用防静电的盛装容器, 作业人员应穿著防静电服装及佩带有绳之静电环并作有效接地。
- 7、 Damaged device will appear some symptoms, lower forward voltage, higher leak current, or even short circuit
受静电与突波破坏之 LED 的电性特性上, 会有明显的漏电流, 或驱动电压明显变低, 甚至是短路现象。
- 8、 when shaped pin should used tong or by professional staff , keep 3mm at least between lens and bend pin, the pin should be shaped before soldering..
引脚成形必须使用夹具或由专业人员来完成, 离胶体最少 3mm 才能弯折引脚, 并请在焊接前完成引脚成形。
- 9、 the pin can't not be press in high temperature, cut pin in room temperature because in high temperature LED may fail
高温时, 不可对引脚施压, 请在室温时裁切引脚, 高温时裁切可能会造成 LED 失效。
- 10、 after shape , pin space should keep in line with the PCB board space
引脚成形后必须保证引脚间距和线路板上的一致。
- 11、 LED is one-way continuity, please check electrode before mount, if amount wrong , the LED chip will damage or fail when LED applied voltage
单向导通性, 安装前确认极性, 若装反, 在施加电压时容易造成 LED 晶片损伤或失效。
- 12、 ordinary our LED the long pin is anode , short pin is cathode, lens without gap is anode , with gap is cathode. unless other special require and note
通常在无特别要求或提示下, 我们提供的 LAMP LED 的长脚为正极, 短脚为负极。胶体无缺口的一端为正极, 有缺口的一端为负极。
- 13、 please design the PCB board to keep a distance between LED and other emit heat component
线路设计时, 请不要将 LED 与发热元件靠得过近。
- 14、 strongly recommend design the board according setting current other than setting voltage . if you are really need setting voltage type please consider there may cause influence arise by difference voltage of difference LED
电路设计上, 建议以定电流设计, 若为定电压设计, 请考虑 LED 之间不同正向电压所可能造成之影响。
- 15、 the outer voltage change will bring the current index change . unsuitable design and current control, easy cause LED fail . for example excess current will cause LED life short or even burn down , too little electricity will cause lacking light
LED 之外加电压变化, 会造成电流指数级变化, 不当之设计与电流控制, 易造成 LED 失效, 如电流过大引起寿命问题甚至烧毁,

电流过小引起亮度不足。

16、If you need make difference BIN LED in the one module .please confirm whether it can meet the electric and optics characteristic require such as the current balance, emitting and brightness consistency.

不同 BIN 号之 LED 需安装在同一个组件时，请先确认是否可满足相关电流及光学之特性要求，如电流是否均衡，光色、亮度的一致性。

17、To protect your eyes, please don' t watch the product directly when the LEDs lighten.
请不要直视点亮的 LED，以免伤害眼睛。

18、It' s unsuitable for circumfluence soldering

本產品不適合作回流焊接。

19、ferrochromium soldering :power keep no more than 30W,tip temperature should not pass 280°C, soldering time within 3 second, welding position and lens should keep 3mm distance at least

烙铁焊接时烙铁功率不要超過 30W，尖端溫度不要超過 280 °C，焊接时间不要超过 3 秒，焊接位置最少与胶体保持 3mm 距离。

20、wave-soldering: temperature should not pass 265°C, soldering time within 5 second, welding position and lens should keep 3mm distance at least

波峰焊接時溫度不超過 265 °C，焊接时间不要超過 5 秒，焊接位置最少与胶体保持 3mm 距離。

21、After soldering the LED should keep out off any shake or outer force before it come to normal temperture

在焊接溫度回到正常以前，必須避免使 LED 受到任何震動或外力。

源磊/Runlite		客户/Customer	
制作/Prepared	林跃敏	工程/Engineering	
审核/Checked	Fealty zhu	品质/Quality	
批准/Approved		批准/Approved	