XL-PD438C **技术数据表 Technical Data Sheet**

红外接收二极管

特点（characteristic）：

＊ 外观尺寸（L/W/H）:6.6*4.8*3.8 mm

Outline Dimensions (L / w / h): 6.6x 4.8 x 3.8mm

＊ 发光颜色及胶体:红外接收/透明胶体

Luminous color and colloid: infrared receiver tube transparent colloid

＊ 环保工艺符合ROHS要求

Environmental protection products Complied With ROHS Directive

＊ 湿气敏感性等级（MSL）:3级

Moisture sensitivity level（MSL）: 3 levels

＊ EIA规范标准包装

EIA standard packaging

＊ 高能效、启动快

High energy efficiency, fast startup

应用领域（product application）：

＊ 医用设备

Medical equipment

＊ 红外遥控器

Infrared remote controller

＊ 摄像监控头

Camera monitoring head

＊ 工业控制：计数器、热成像、智能电表

Industrial control: counters, thermal imaging, smart meter

＊ 红外光电开关

Infrared photoelectric switch

＊ 无线通信与信号传输

Wireless communication and signal transmission

＊ 智能小车, 机器人

Intelligent car, robot

目录
Catalogue

电性参数

Electrical Characteristics

参数名称 Parameter	符号 Symbol	最大额定值 Maximum rating	单位 Unit
功率 Power consumption	Pd	150	mW
反向电压 Reverse Voltage	VR	32	V
工作环境温度 Operating ambient temperature	Topr	-40°C ~ +85°C	
储存环境温度 Storage ambient temperature	Tstg	-40°C ~ +85°C	
焊接条件 Welding conditions	Tsol	260℃≤6S	

光电参数（Initial Electrical Optical Characteristics）（Ta=25℃）

项目参数 Parameter	符号 Symbol	最小值 Min	代表值 Representative	最大值 Max	单位 Unit	测试条件 Condition
开路电压 Open-Circuit Voltage	VOC	/	0.35	/	V	λ_P=940nm Ee=5mW/cm2
短路电流 Short-Circuit Current	Isc	/	18	/	μA	λ_P=940nm Ee=1mW/cm2
反向光电流 Reverse Light Currente	IL	15	25	/	μA	λ_P=940nm V_R=5V Ee=1mW/cm2
反向暗电流 Reverse Dark Current	ID	/	5	30	nA	V_R=10V Ee=0mW/cm2
上升时间Rise time	Tr	/	50	/	uS	V_R=10V RL=1000Ω
下降时间Fall time	Tf	/	50	/		
反向击穿电压 Reverse Breakdown Voltage	BVR	25	170	/	V	Ee=0mW/cm2 IR=100μA
总电容 Total Capacitance	Ct	/	6	/	pF	Ee=0mW/cm2 V_R=5V f=1MHz
感应波长范围 Rang of Spectral Bandwidth	λ0.5	400	/	1100	nm	/
峰值感应波长 Wavelength of Peak Sensitivity	λP	/	940	/	nm	/

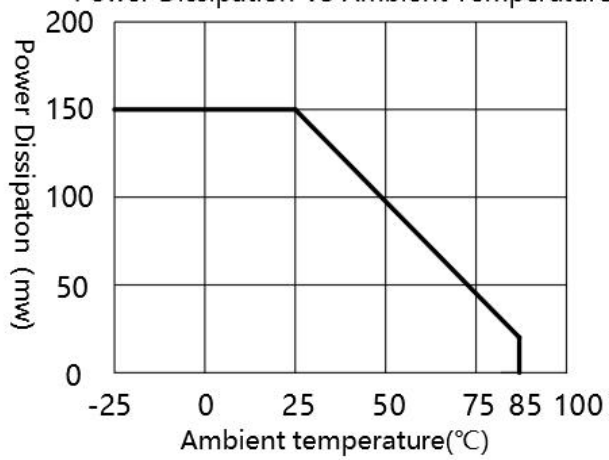
等级档位 Rank

档位Bin	符号Symbol	条件Condition	最小值Min.	最大值Max.	单位Unit
BIN1	IL	Ee=1mW/cm² V_{CE}=5V	10.2	16.5	mA
BIN2			13.5	22.0	mA
BIN3			18.0	27.5	mA
BIN4			22.5	33	mA

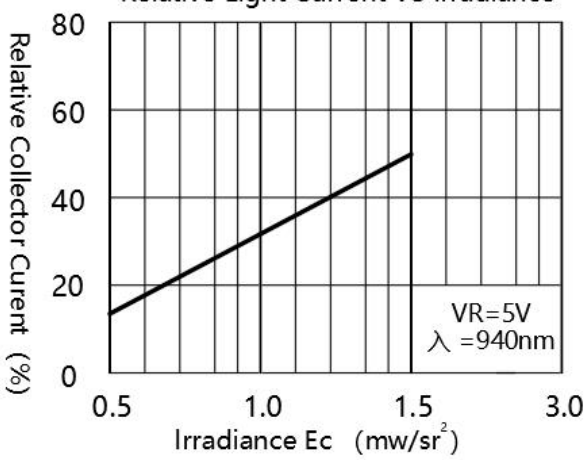
典型特性曲线

Typical Characteristics Curves

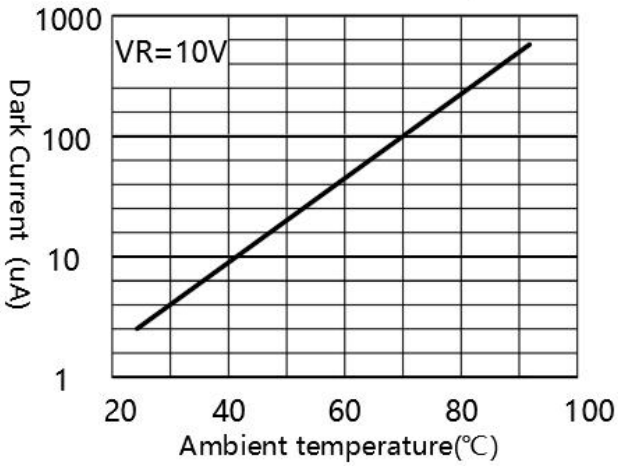
功率与环境温度的关系
Power Dissipation VS Ambient Temperature



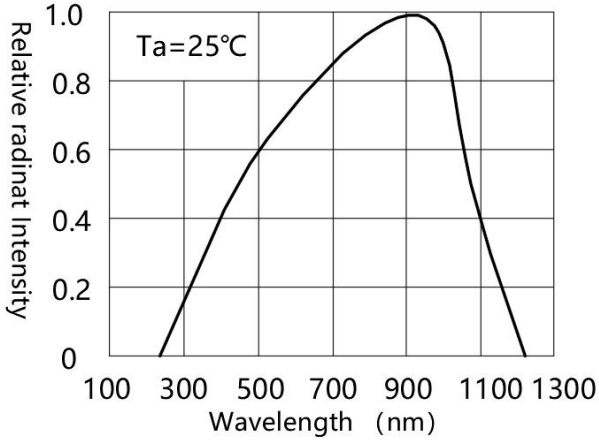
反向光电流与辐射强度的关系
Relative Light Current VS Irradiance



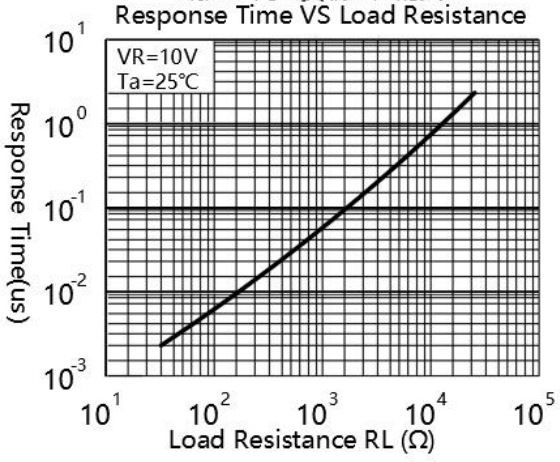
暗电流与环境温度的关系
Dark Current VS Ambient Temperature



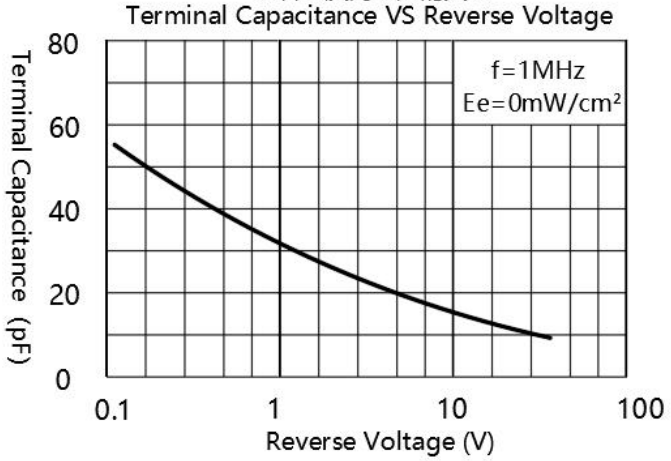
感应波长曲线图
Spectral Sensitivity



响应时间与负载电阻的关系
Response Time VS Load Resistance

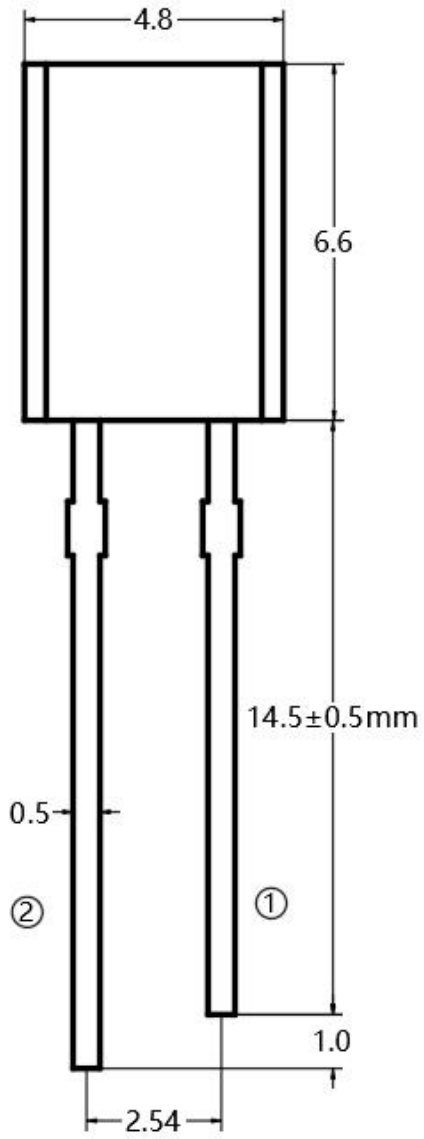


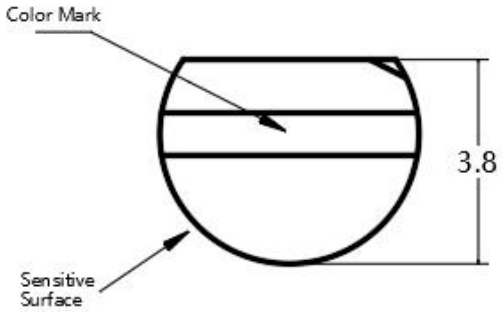
电容与反向电压的关系
Terminal Capacitance VS Reverse Voltage

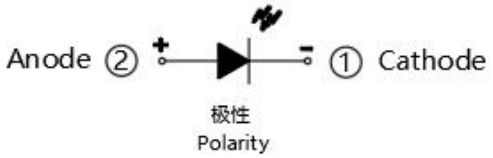


外形尺寸

Outline Dimension







备注(Note)：

1. 标注尺寸单位为毫米

Dimensions are in millimeters

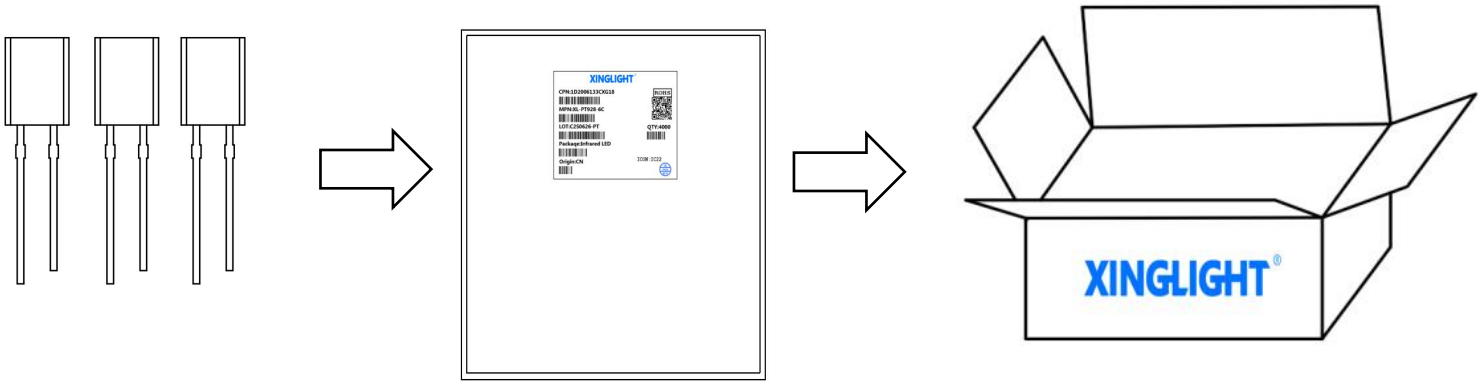
2. 除特别标注外，所有尺寸允许公差± 0.30mm

Tolerances unless mentioned are ± 0.30mm

包装

Packaging

◇ 防潮抗静电包装Moisture Proof and Antti-Electrostic Foil Bag



◇ 标签说明 Label Expantion

CPN：批号/档位

MPN：型号

LOT：日期

QTY：数量

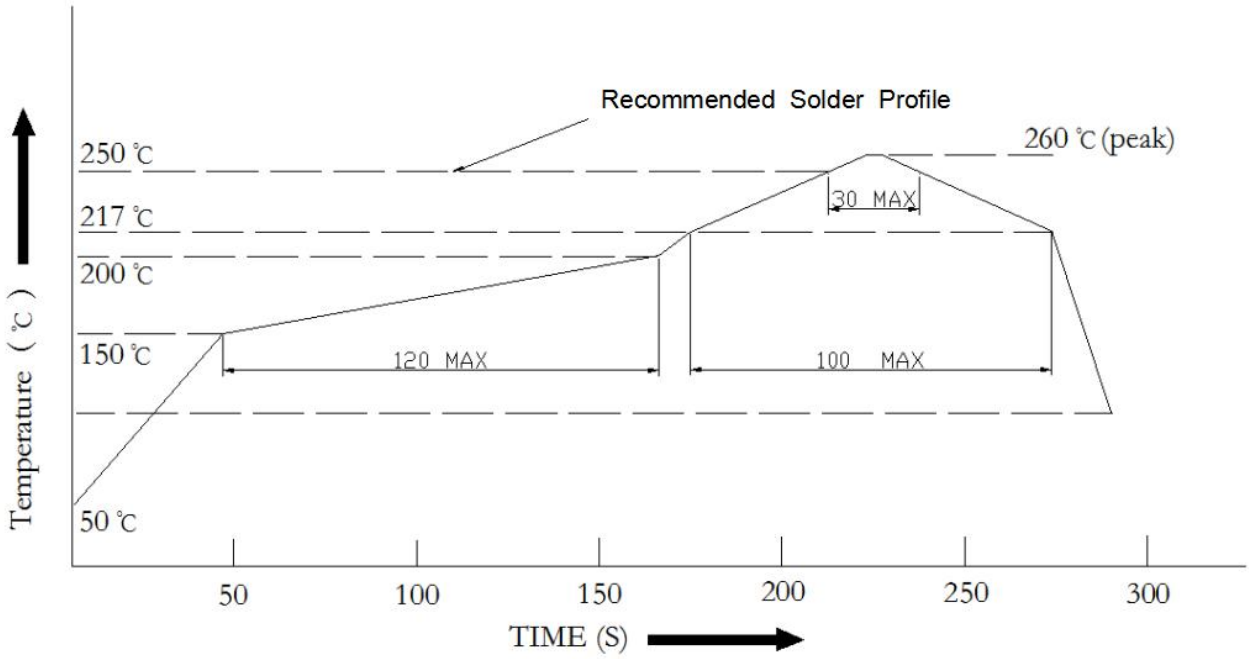
ORIGIN：产地

IC：光电流

PACKAQE：封装

焊接指导
Guideline for Soldering

推荐焊接温度曲线 The wave peak welding curve is recommended :



注意：Note

1 、铅焊料温度剖面

Lead solder temperature profile

2 、波峰焊焊接次数建议一遍

Suggest one wave soldering frequency

3 、焊接时，不要在加热过程中对 LED 施加压力
When soldering, do not put stress on the LED during heating

4 、焊接后，不要使电路板翘曲
After soldering, do not warp the circuit board

5 、产品最佳的最高焊接温度建议控制在240℃/6S
The recommended maximum welding temperature for the product is 240 ℃/6s

使用注意事项（1）
Precautions （1）

烙铁条件 Soldering Iron

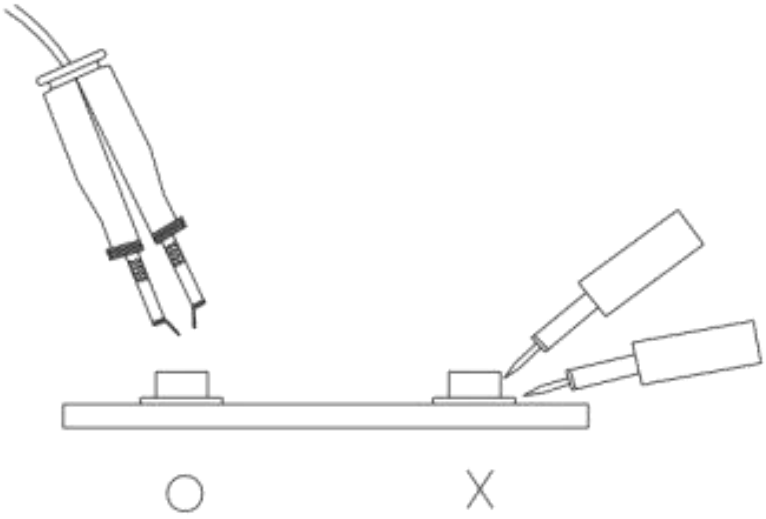
每个端子都要去烙铁尖端温度低于 300℃为 3 秒内一次少于烙铁容量 25W 。 离开两秒钟然后更多的间隔，并做焊接每个终端。手工焊料通常在开始的时候容易损坏产品。

Each terminal is to go to the tip of soldering iron temperature less than 300℃ for 3 seconds within once in less than the soldering iron capacity 25W. Leave two seconds and more intervals, and do soldering of each terminal. Be careful because the damage of the product is often started at the time of the hand solder.

*手工补数 Repairing

修理不应在 LED 焊接后进行。当修理是不可避免的是，应该使用双头烙铁 (如下图所示) 。应该是事先确认 LED 的特性是否会或不会损坏通过修理。

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



使用注意事项（2）

Precautions （2）

1. 应用 **APPLY**

此LED可使用于一些普通的电子设备，例如办公设备，通信设备、房屋装饰，若LED用在一些可靠性要求较高的情况下，如航空运输，交通控制及医辽器械时，一定需参考销售提供之资料进行使用。

This LED can be used in some ordinary electronic equipment, such as office equipment, communication equipment, house decoration, if LED is used in some high reliability requirements, such as air transportation, traffic control and medical liao equipment, must refer to the information provided by sales.

2. 储存 Keep in storage

贮存LED的环境，温度不超过30℃，相对湿度不超过70%。 建议LED在原包装箱里日期不超过三个月 进行使用，如果需加长贮存时间，建议放在干燥箱内，并加放干燥剂， 或者充入氮气。

Storage environment of LED with temperature not exceeding 30℃ and relative humidity not exceeding 70%.It is recommended that LDE be used in the original box for no more than three months. If longer storage time is required, put it in the drying box and add desiccant or filled with nitrogen.

3. 清洗 Clean

当用化学品清洗胶体时必须特别小心，因为有些化学品对胶体表面有损伤并引起褪色如三氯乙烯、丙、酮等。可用乙醇擦拭、浸渍，时间在常温下不超过3分钟。

Special care must be taken when cleaning colloids with chemicals, as some chemicals have damage to the colloidal surface and cause fading such as trichloroethylene, propylene, ketone, etc.It can be wiped and soaked with ethanol for no more than 3 minutes at room temperature.

4. 引脚配置 Feet assembly

（1）必需离胶体2毫米才能折弯支架。

It must be 2 mm from the colloid to bend the bracket.

（2）支架成形必须用夹具或由专业人员来完成。

Support forming must be done with fixtures or by a professional.

（3）支架成形必须在焊接前完成。

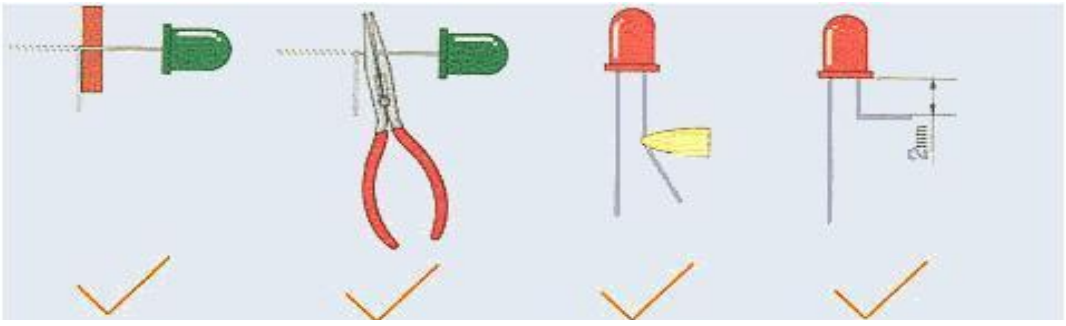
Support forming must be completed before welding.

（4）支架成形需保证引脚和间距与线路板上一致。

The pins and spacing are the same as on the circuit board.

（5）焊接必须在正常温度下进行，当LED正常焊接到PCB板上后，应尽量避免在LED引脚处施加机械压力。

Welding must be performed at normal temperature and when LED is normally welded to the PCB plate, avoid applying mechanical pressure at LED pins at a minimum.



使用注意事项（3）

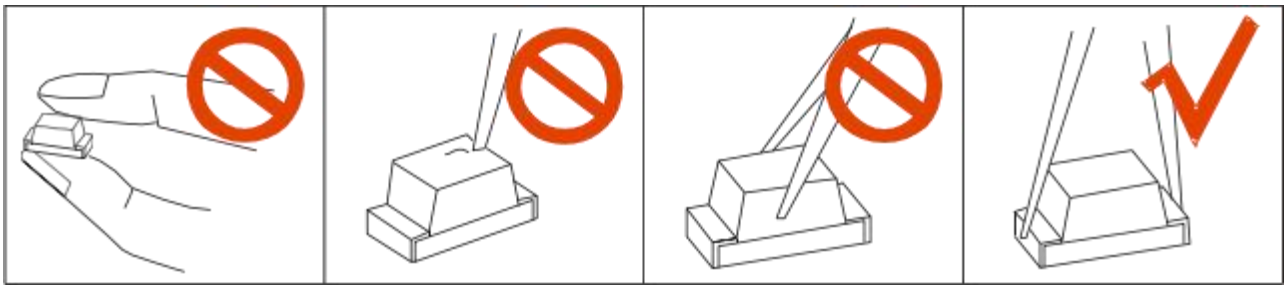
Precautions （3）

其他事项：

Others：

*直接用手拿取产品不但会污染封装树脂表面，也可能由于静电等因素导致产品性能的改变。过度的压力也可能直接影响封装内部的管芯和金线，因此请勿对产品施加过度压力，特别当产品处于高温状态下，例如在回流焊接过程中。

*When handling the product, touching the encapsulant with bare hands will not only contaminate its surface, but also affect on its optical characteristics. Excessive force to the encapsulant might result in catastrophic failure of the LEDs due to die breakage or wire deformation. For this reason, please do not put excessive stress on LEDs, especially when the LEDs are heated such as during Reflow Soldering.



*LED 的环氧树脂封装部分相当脆弱，请勿用坚硬、尖锐的物体刮、擦封装树脂部分。在用镊子夹取的时候也应当小心注意。

*The epoxy resin of encapsulant is fragile, so please avoid scratch or friction over the epoxy resin surface. While handling the product with tweezers, do not hold by the epoxy resin, be careful.