

产品规格/承认书

PRODUCT SPECIFICATION / APPROVAL SHEET08

产品名称: 硅光电池
PRODUCT NAME

产品型号代码: LXD44MQ
PRODUCT MODEL CODE

产品编码: LXD44MQ
PRODUCT CODE

客户名称:
CUSTOMER

客户编码:
CUSTOMER CODE

送样日期:
ISSUE DATE

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硅光电池

Silicon Photocell

产品型号/ MODEL NO.: LXD44MQ

产品特性/Features:

硅光电池是一种可以直接将光能转换成电能的半导体元器件。它的内部有一个大面积的PN结，当光照射到PN结上时，在PN结的两端便会产生电动势，在电极之间就会输出一定的电流和电压。

它具有光电倍增管、光电管、硒光电池不具备的宽光谱响应特点，还兼具体积小、灵敏度高、响应速度快、线性好、性能稳定等优点，电路设计上也比较简单灵活，是一款性价比较高的可见光到近红外光电检测器件。



A silicon photocell is a semiconductor component that directly converts light energy into electrical energy. It has a large-area PN junction inside. When light strikes the PN junction, an electromotive force is generated at both ends of the PN junction, and a certain current and voltage are output between the electrodes.

It has the characteristics of wide spectral response that photomultiplier, phototube and selenium photocell do not have. It also has the advantages of small volume, high sensitivity, fast response, good linearity and stable performance. The circuit design is simple and flexible. It is a cost-effective device for visible to near infrared photodetector.

产品应用/Applications:

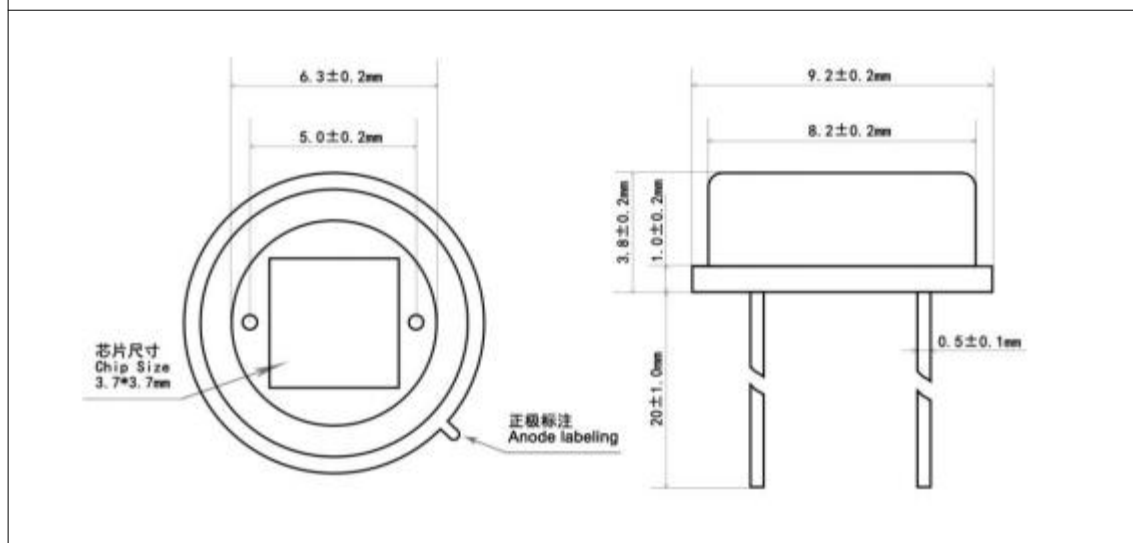
硅光电池的应用非常广泛，如照相、摄像设备的自动测光；各种光学仪器：照度计、分光光度计、亮度计、火焰探测器光电控制、光学探测电器、光斩波器等；还可用于光电检测元件，近红外探测器、光栅测距、验钞机、激光准直特性识别以及光电控制开关等领域。 Silicon photocells are widely used, such as automatic measurement of light in camera and video equipment; various optical instruments: illuminance meter, spectrophotometer, luminance meter, flame detector photoelectric control, optical detection equipment, optical chopper, etc.; In the field of photoelectric detection components, near-infrared detectors, grating ranging, money detectors, laser alignment characteristics recognition and photoelectric control switches.

主要参数/Main parameters:

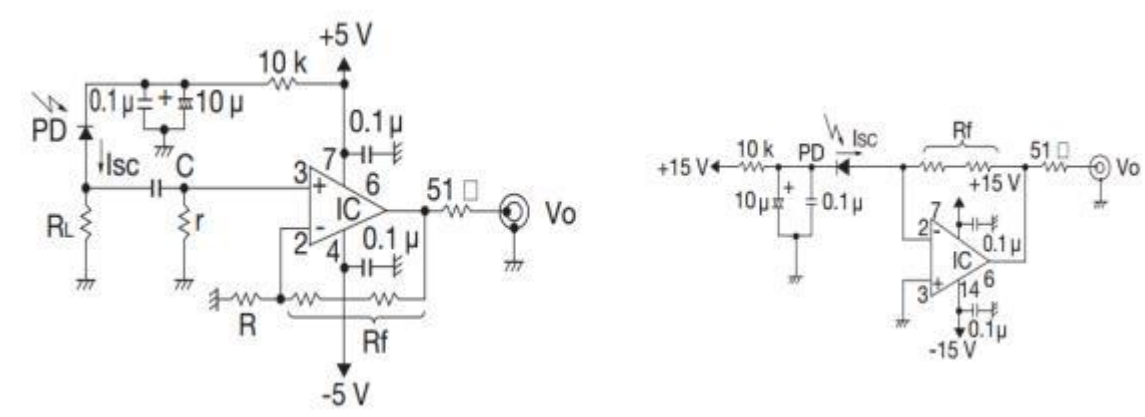
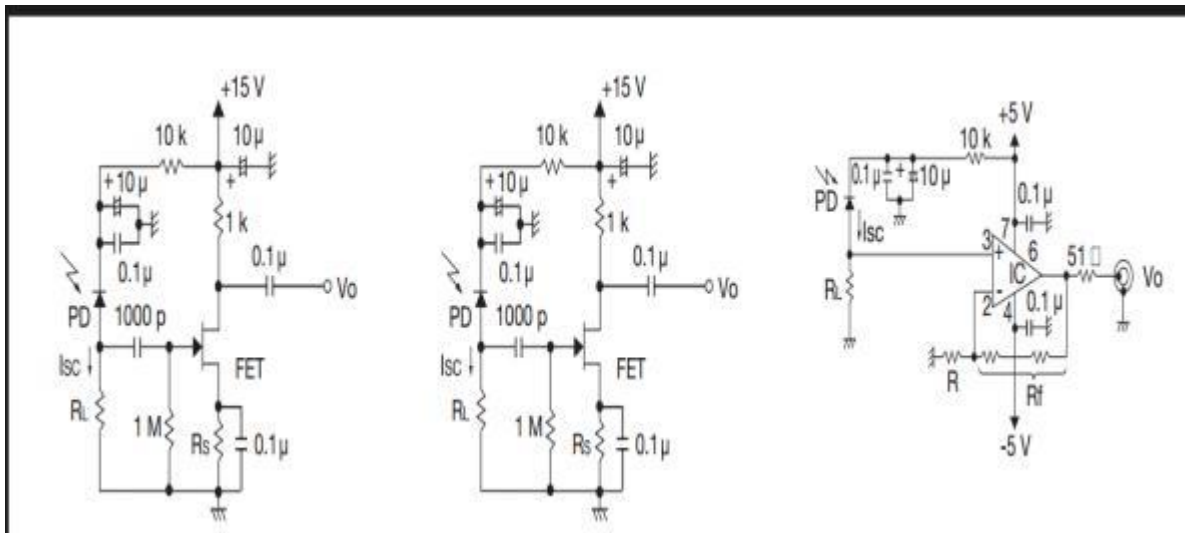
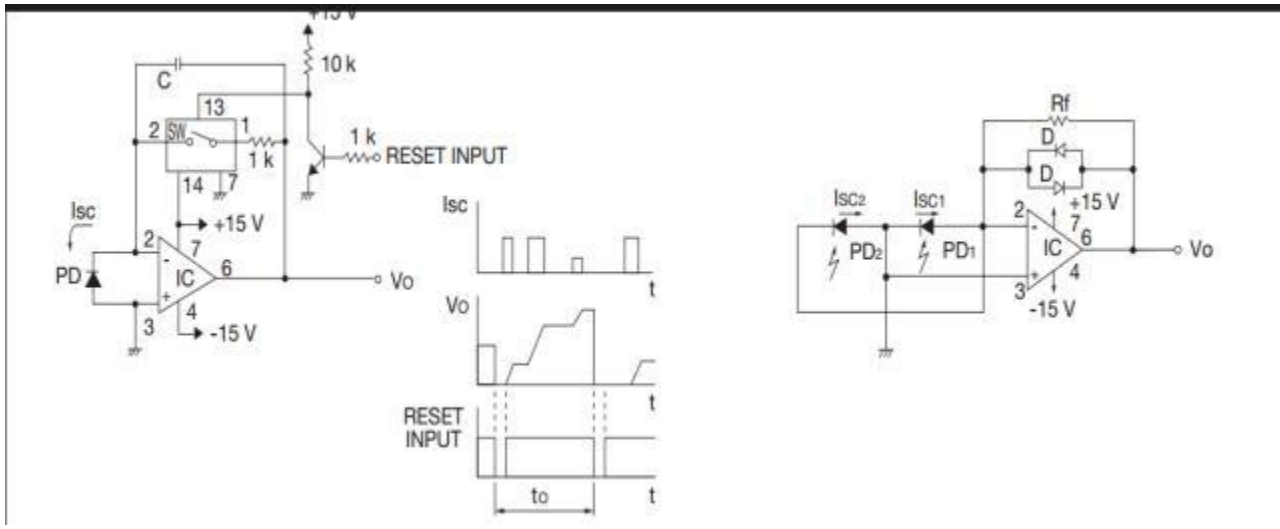
窗口封装形式：	M:金属壳底座 Q:石英玻璃光窗
芯片尺寸 L* W：	3.7mm*3.7mm
环境工作温度 Topr.：	-20 to +65℃
贮存温度 Tstg:	-20to +85℃
光谱响应范围 (λ)	320-1100 nm(±50nm)
峰值波长 (λ _p)	960 nm
开路电压 (V _{oc}) E _v =100Lux (Min)	≥330 mV
短路电流 (I _{sc}) E _v =100Lux (Min)	最小值10μA, 典型值14μA
暗电流 (I _D) E _v =0Lux VR=-1V (Max)	≤1nA
结电容 (C _j) E _v =0Lux ; VR=0	约 400PF
响应时间 (t _r) R _L =100Ω; E _v =1000Lux	1μs

注意： 在日常测试中，影响硅光电池测试结果误差的因素有很多种，例如：光源性质（自然光、人造光源、白炽灯、日光灯、不同颜色的 LED 光谱均不相同）、电源电压 V_{dd} 不同、接收光源角度的不同，均可能造成技术指标的参数变化。

内部的标准光源，规定在 A 光源下，色温 2854k±50k, 照度 10Lux~100Lux, 温度 25℃ 下进行测试，如有特殊要求，请提前与我司沟通。



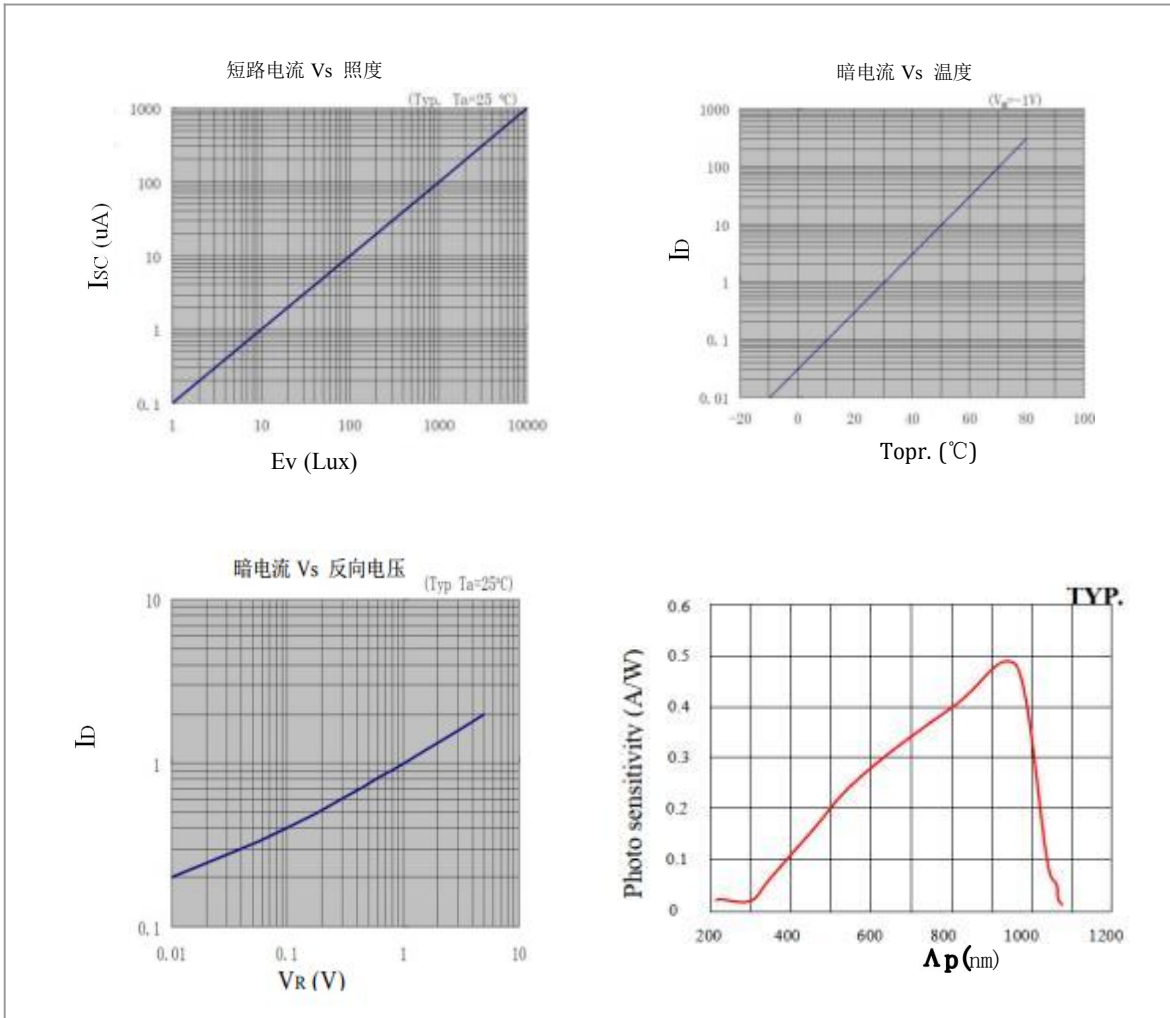
参考电路图:



注：以上曲线图仅供参考

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典型曲线图:



注：以上曲线图仅供参考

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可靠性测试方法/Reliability Testing Method:

测试项目	测试条件
光电流/ Light Current 暗电流/ Dark Current	光电流: 用 400-600Lux 光源下受光照射 2hr 后, 在标准光源 A (色温 2854K) 下, 用 100Lux 照度测量的电流值. Light Current: Measured at 100lux with standard light A (2856K color temperature) and 2hr pre-illumination at 400-600lux prior testing. 暗电流: 关闭 10Lux 光照 10 秒的电流最小值. Dark Current: Measured 10 seconds after closed 10Lux.
温度变化试验 Temperature Change Test	温度: 55°C±5°C / 时间:30 分钟 Temperature: 65°C±5 °C/ Time: 30 minutes 照射光:黑暗放置 Light Condition: Dark Place 试验时间:24 小时 / 低温:-25°C±5°C Test Time: 24 hours / Low Temperature: -25°C + 5 °C 时间:30 分钟 Time: 30 minutes 照射光:黑暗放置以上为一个循环试验时间 24 小时 Light Condition: Darkness is placed above a cycle time of 24 hours
恒定温热试验 Constant Thermothermal Test	温度:40±5°C,湿度: 90-95% Temperature: 40 + 5°C, Humidity: 90-95% 照射光:黑暗放置 Light Condition: Dark Place 试验时间:48 小时 Test Time: 48 hours
引线高温试验 High Temperature Test For Lead Wire	在引线根部作 90 度弯曲, 从离根部 5mm 处负载 100g 的负荷。 Bend at the root of the lead 90 degrees, load the load of 100g from the root 5mm. 烙铁温度: 260°C加热 / 时间: <3-5s, 焊点离基部: 5mm 以外。 Welding Temperature: 260 °C / Time: <3-5s, Solder joints from the base: At least 5mm

注意事项/Precaution for use:

1. 本产品采用环保材料包装, 小包装 100 支, 大包装 2000 支;

Our products use the environmental protection packaging materials, small package is in 200 pieces, big one is 2000 pieces;

2. 避免将本产品放在潮湿、高温环境下保存;

Avoid storing the product in the damp and high temperature environment;

3. 焊接时间: 260 摄氏度, 焊接时间小于 3s. 尽可能短;

The welding time should as short as possible;

4. 注意引线焊接位置应距基座 4mm 以上。

The lead bonding position should above the ceramic base 4mm;

声明:

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