

uxcell a19061200ux0041

uxcell 20pcs Photosensitive Diode Photodiodes Instruction Manual

Brand: uxcell | Model: a19061200ux0041

1. INTRODUCTION

This manual provides essential information for the proper use, installation, and maintenance of your uxcell Photosensitive Diode Photodiodes. These components are designed for light sensing applications, offering low heat generation, energy efficiency, and a long operational lifespan. Please read this manual thoroughly before use to ensure optimal performance and safety.

The photodiodes are characterized by a receive wave range of 400-1100 nm and a response peak wavelength of 940 nm, making them suitable for various light detection tasks.

2. SAFETY INFORMATION

Always observe the following safety precautions when handling electronic components:

- Ensure power is disconnected from any circuit before installing or removing photodiodes.
- Handle components by their body, avoiding excessive bending or stress on the leads.
- Wear appropriate personal protective equipment (PPE) if working with soldering equipment or other tools.
- Store photodiodes in a dry, static-free environment to prevent damage.
- Dispose of electronic waste responsibly according to local regulations.

3. PACKAGE CONTENTS

Your package should contain the following items:

- 20 x uxcell Photosensitive Diode Photodiodes

20 Pcs

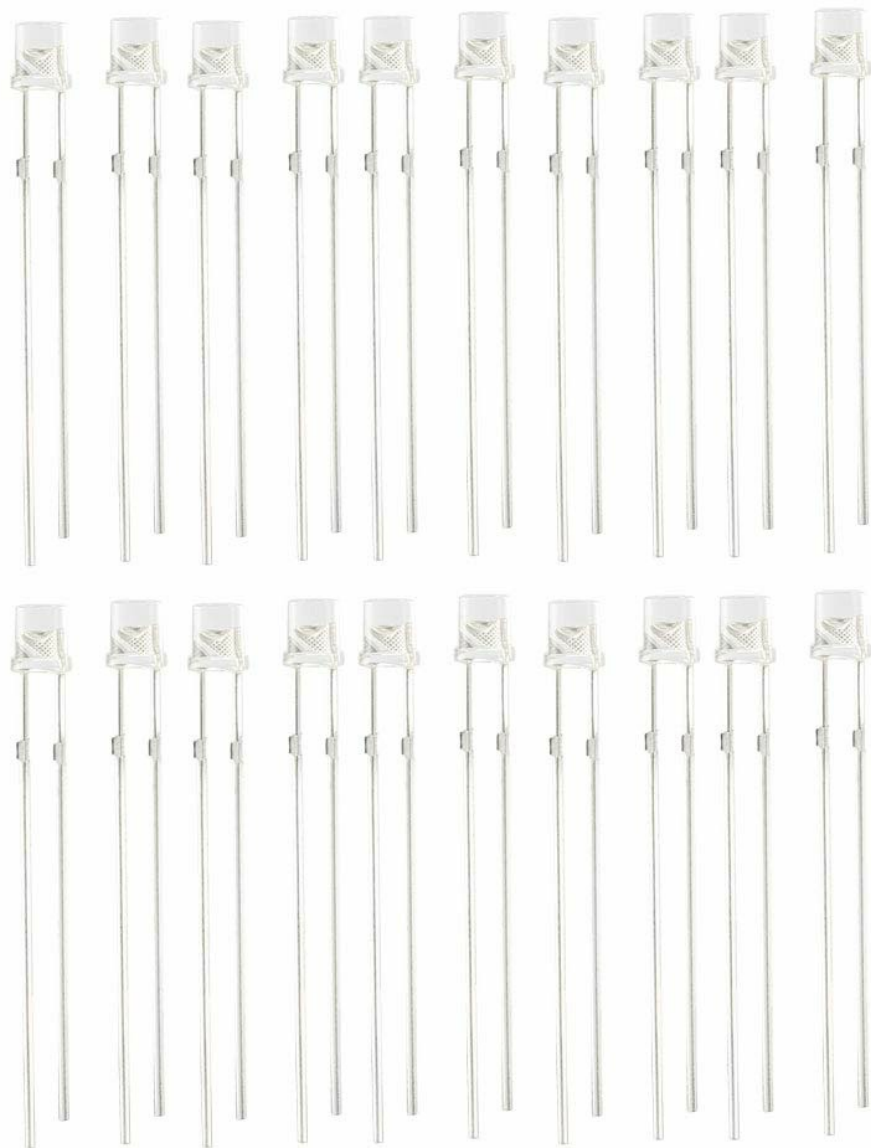


Image: A set of 20 uxcell Photosensitive Diode Photodiodes, as typically included in the package.

4. SPECIFICATIONS

The following table details the technical specifications of the uxcell Photosensitive Diode Photodiodes:

Feature	Specification
Receive Wave Range	400-1100 nm
Response Peak Wavelength	940 nm
Receiving Angle	40°
Material	Si, Plastic, Metal
Head Color	Clear
Head Size (D*H)	3 x 4mm / 0.12 x 0.16 inch

Feature	Specification
Pin Diameter	0.4 mm / 0.016 inch
Total Length	33mm / 1.3 inch
Package Type	DIP (Dual In-line Package)
Polarity	Anode (Longer Part) Cathode (Shorter Part)

Receive Wave Range : 400-1100 nm

Response Peak Wavelength: 940 nm



Image: Visual representation of the photodiode's light reception characteristics.



Image: Detailed dimensions of the photodiode, including head size and total length.

5. SETUP AND INSTALLATION

Follow these steps for proper setup and installation of the photodiodes:

1. **Identify Polarity:** Photodiodes are polarized components. The longer lead is the *Anode*, and the shorter lead is the *Cathode*. Correct polarity is crucial for proper operation.
2. **Circuit Integration:** Integrate the photodiode into your circuit design. Typically, photodiodes are operated in reverse bias for faster response times, but they can also be used in photovoltaic mode. Refer to your circuit schematic for specific connection requirements.
3. **Mounting:** Insert the leads into appropriate holes on a breadboard, PCB, or other mounting surface. Ensure a secure fit without excessive force.
4. **Soldering (if applicable):** If soldering, use a low-wattage soldering iron and minimize heat exposure to the component body. Solder quickly and allow to cool. Avoid bending leads immediately after soldering.



Image: A single uxcell photodiode, illustrating its clear head and metal leads for connection.



Image: Close-up of a photodiode, highlighting the clear head and the distinction between the anode (longer) and cathode (shorter) leads.

6. OPERATING PRINCIPLES

A photodiode is a semiconductor device that converts light into an electrical current. When photons (light particles) strike the photodiode's sensitive area, they create electron-hole pairs. These charge carriers are then swept across the diode's depletion region by an electric field, generating a current proportional to the intensity of the incident light.

The uxcell photodiodes are designed to be sensitive across a broad spectrum, from 400 nm (visible light) to 1100 nm (near-infrared), with peak sensitivity at 940 nm, which is common for many infrared applications.

7. MAINTENANCE

These photodiodes are low-maintenance components. To ensure their longevity and optimal performance:

- Keep the clear head free from dust, dirt, or smudges, as these can obstruct light reception. Use a soft, lint-free cloth for cleaning if necessary.
- Avoid exposing the photodiodes to extreme temperatures or humidity.
- Do not apply excessive mechanical stress to the leads or the body of the component.

- Protect from direct sunlight or strong artificial light sources when not in use, especially during storage, to prevent potential degradation over very long periods.

8. TROUBLESHOOTING

If you encounter issues with your photodiodes, consider the following troubleshooting steps:

- **No Output/Incorrect Reading:**
 - Verify correct polarity (Anode/Cathode) connections.
 - Check for proper electrical connections and continuity in your circuit.
 - Ensure sufficient light is reaching the photodiode's sensitive area.
 - Confirm the light source's wavelength falls within the photodiode's receive wave range (400-1100 nm).
 - Test the photodiode with a known working circuit or multimeter to confirm its functionality.
- **Intermittent Operation:**
 - Inspect for loose connections or cold solder joints.
 - Check for environmental factors like flickering light sources or vibrations.
- **Physical Damage:**
 - Visually inspect the photodiode for any cracks, bent leads, or other signs of damage. Damaged components should be replaced.

9. WARRANTY AND SUPPORT

Specific warranty details for this product are not provided in the available information. For any product support, technical inquiries, or warranty claims, please contact uxcell directly through their official website or the retailer from whom you purchased the product. Retain your proof of purchase for any potential claims.

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ASK A QUESTION ABOUT THIS MANUAL

Ask about setup, troubleshooting, compatibility, parts, safety, or missing instructions. Manuals+ will review the question and use this page's manual context to help answer it.

Name

Anonymous

Email

you@example.com

After a successful submission, we securely hash the supplied account or form email before sending it to Microsoft Advertising for conversion attribution. [Privacy details](#).

Question

Example: How do I reset this device or fix this error?

Details

Model number, symptoms, what you tried, or the section of the manual you are using.

Submit question