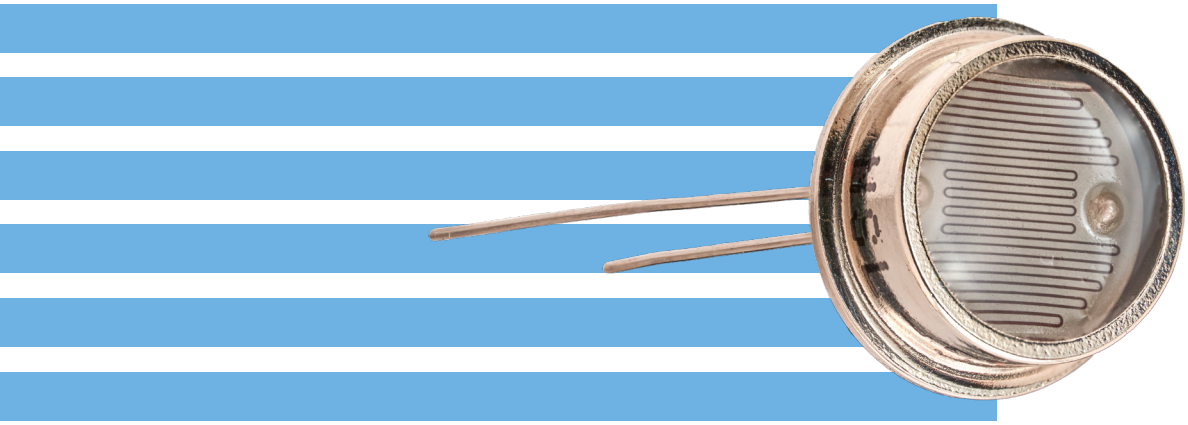


# NSL-4960

## Light Dependent Resistor (LDR) CdS Photocell

The NSL-4960 is a light dependent resistor with sensitivity in the visible light region. The (CdS) photocell is contained in a TO-8 hermetically sealed package.

Advanced Photonix's CdS Photocells are photoresistor cells for visible light measurement designed to sense light from 400 to 700 nm. Their resistance decreases as the light level increases with efficiency characteristics similar to the human eye. These Light Dependent Resistors (LDR) are available in a wide range of resistance values. They are available in a two-leaded plastic-coated ceramic header or hermetically sealed TO metal cans.

## Applications

- Industrial
- Audio Compressors
- Night Lights
- Photography Light Meters
- Solar Street Lights
- Flame Detection

## Features

- Passive Resistance output
- Hermetically Sealed TO-8
- Available in a two-leaded ceramic package
- Available in a wide range of resistance values

## Absolute Maximum Ratings

| Parameter | Symbol | Min | Max | Unit |
|---|---|---|---|---|
| **Voltage** | $V_R$ | - | 150 | V |
| **Power Dissipation** | - | - | 500 | mW |
| **Operating Temperature** | $T_{OP}$ | -40 | +75 | °C |
| **Storage Temperature** | $T_{STG}$ | -55 | +75 | °C |
| **Package** | TO-8 | | | |

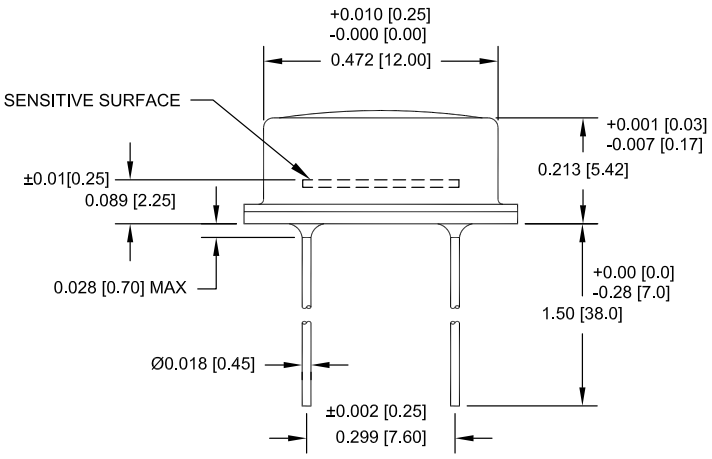
## Typical Electro-Optical Specifications at $T_A$=23 °C

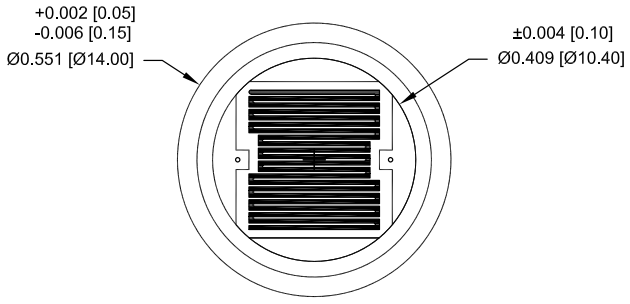
| Parameter | Test Conditions | Symbol | Min | Typ | Max | Unit |
|---|---|---|---|---|---|---|
| **Light Resistance** | 1ftc., 2854 °K | $R_L$ | 10 | 17 | 24 | KΩ |
| | 100 ftc.,2854 °K | $R_L$ | - | 500 | - | KΩ |
| **Dark Resistance** | 5 sec after removal of test light | $R_D$ | 1 | - | - | MΩ |
| **Spectral Application Range** | - | λ | - | 550 | - | nm |

[1] Cells light adapted at 30 to 50 ftc for 16 hours prior to electrical tests.

## Mechanical Specifications

Units are in inches [mm]



## Care and handling instructions

Your devices are packaged and shipped in opaque, padded containers to avoid ambient light exposure and damage due to shock from dropping or jarring.

Care must be taken to avoid device exposure to high ambient light levels, particularly from tungsten sources or sunlight.

- Photocells can be rendered inoperable if dropped or sharply jarred. The wire bonds are delicate and can become separated from the photodiode's bonding pads when the detector is dropped or otherwise receives a sharp physical blow.
- Most windows on photodiodes are either silicon or quartz. They should be cleaned with isopropyl alcohol and a soft (optical grade) pad.
- Device exposure to extreme high or low storage temperatures can affect the subsequent performance. Maintain a non-condensing environment for optimum performance and lifetime.
- All devices are considered ESD sensitive. The devices are shipped in ESD protective packaging. When unpacking and using these products, anti-ESD precautions should be observed.
- Devices and/or operation may be impaired if exposed to CHLOROETHENE, THINNER, ACETONE, TRICHLOROETHYLENE or any harsh chemicals.
- Devices in plastic packages should be given special care. Clear plastic packages are more sensitive to environmental stress than those of black plastic. Storing devices in high humidity can present problems when soldering. Since the rapid heating during soldering stresses the wire bonds and can cause wire to bonding pad separation, it is recommended that devices in plastic packages to be baked for 24 hours at 85°C.
- The leads on the device SHOULD NOT BE FORMED. If your application requires lead spacing modification, please contact Advanced Photonix Applications group at Techsupport@advancedphotonix.com before forming a product's leads. Product warranties could be voided.
- Most devices are provided with wire or pin leads for installation in circuit boards or sockets. Observe the soldering temperatures and conditions specified below:
  - Soldering Iron: Soldering 30 W or less
  - Temperature at tip of iron 300°C or lower.
  - Dip Soldering: Bath Temperature: 260±5°C.
  - Immersion Time: within 5 Sec.
  - Soldering Time: within 3 Sec.
  - Vapor Phase Soldering, Reflow Soldering: DO NOT USE

## Legal Disclaimer

Information in this data sheet is believed to be correct and reliable. However, no responsibility is assumed for possible inaccuracies or omission. Specifications are subject to change without notice.

