

PHOTORESISTORS

5mm, 12mm, & 20mm LDR Radial Lead Types

Description

Photoconductive cells are sensors that allow you to detect light. They are small, inexpensive, low-power, easy to use, and don't wear out. NTEs light-dependent resistors (LDR) are photoresistors whose resistance decreases with increasing incident light intensity. In other words, when it is dark, they have a high electrical resistance and when it is light, their electrical resistance is low.

Features

- Epoxy Encapsulated
- Small Size
- Reliable Performance
- Quick Response
- High Sensitivity
- Good Characteristic of Spectrum

Typical Applications

Digital Applications

- Automatic Headlight Dimmer
- Night/Streetlight Control
- Photoelectric Control
- Industrial Control
- Security System

Analog Applications

- Camera Exposure Control
- Automatic Gain Control

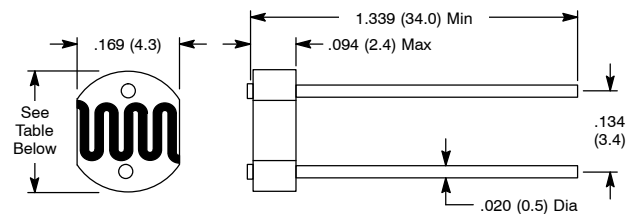
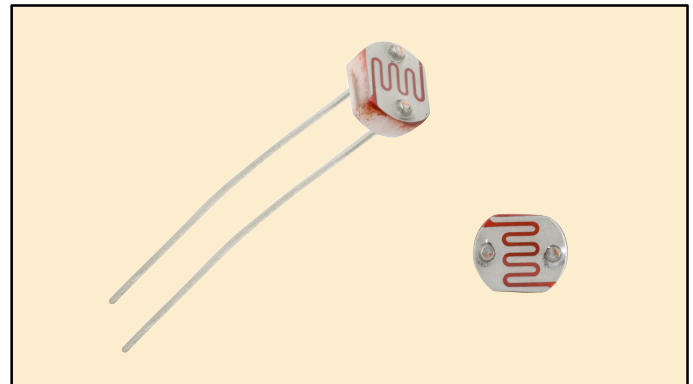
Specifications

Spectral Response Peak:

5mm Types: 540nm

12mm & 20mm Types: 560nm

Ambient Temperature Range: -30° to +70°C



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| NTE Type | Diameter | Max. DC Voltage | Power Dissipation (mW) | Light Resistance (10Lux)(KΩ) | Dark Resistance (MΩ) | $\gamma \frac{100}{10}$ | Response Times (ms) | |
|----------|-------------|-----------------|------------------------|------------------------------|----------------------|-------------------------|---------------------|----------|
| | | | | | | | Increase | Decrease |
| 02-LDR1 | .201 (5.0) | 150 | 100 | 50 - 100 | 5.0 | 0.8 | 20 | 30 |
| 02-LDR2 | .201 (5.0) | 150 | 90 | 5 - 10 | 0.2 | 0.5 | 30 | 30 |
| 02-LDR3 | .201 (5.0) | 150 | 100 | 100 - 200 | 10.0 | 0.9 | 20 | 30 |
| 02-LDR4 | .201 (5.0) | 150 | 100 | 30 - 50 | 3.0 | 0.7 | 20 | 30 |
| 02-LDR12 | .472 (12.0) | 250 | 200 | 5 - 10 | 1.0 | 0.6 | 30 | 30 |
| 02-LDR13 | .472 (12.0) | 250 | 200 | 10 - 20 | 2.0 | 0.6 | 30 | 30 |
| 02-LDR14 | .472 (12.0) | 250 | 200 | 30 - 50 | 5.0 | 0.7 | 30 | 30 |
| 02-LDR15 | .472 (12.0) | 250 | 200 | 50 - 100 | 8.0 | 0.8 | 30 | 30 |
| 02-LDR20 | .787 (20.0) | 500 | 500 | 5 - 10 | 1.0 | 0.6 | 30 | 30 |
| 02-LDR21 | .787 (20.0) | 500 | 500 | 10 - 20 | 2.0 | 0.6 | 30 | 30 |
| 02-LDR22 | .787 (20.0) | 500 | 500 | 30 - 50 | 5.0 | 0.7 | 30 | 30 |
| 02-LDR23 | .787 (20.0) | 500 | 500 | 50 - 100 | 8.0 | 0.8 | 30 | 30 |

Soldering Notes:

1. Soldering times should be kept as short as possible.
2. The soldering iron should be positioned at least 4mm from the ceramic base.

Terms

- Light Resistance:
Measured at 10Lux with standard light A (2854K color temperature) and 2H pre-illumination at 400-600Lux prior to testing.
- Dark Resistance:
Measured 10 seconds after pulsed 10Lux.
- Gamma Characteristic:
Between 10Lux and 100Lux and given by: $T = \frac{\log(R_{10} / R_{100})}{\log(100 / 10)} = \log(R_{10} / R_{100})$
R10, R100 cell resistance at 10Lux and 100Lux. The error of T is +0.1.

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