Light-Emitting Diodes (LEDs)

Overview

LED stands for Light-Emitting Diode. Because this component is a diode, it will only work when connected in the correct orientation.

**Size**

The most common size of LEDs is T-1 3/4. The “T” refers to the shape is the approximate diameter in 1/8ths of an inch. These are often listed as 5mm.

**Brightness**

The milli-candela (mcd) rating indicates the brightness of an LED at a particular angle.

For Example:
- 10 – Dim
- 200 – Somewhat Dim
- 500 – Somewhat Bright
- 1000 – Fairly Bright
- 5000 – Bright
- 20000 – Really Bright

*Lumens (lm)* refers to the overall brightness.

This lead is referred to as the **anode**. This is the lead that is connected to a positive voltage and is typically longer than the other lead.

This lead is referred to as the **cathode**. It is connected to a negative voltage and is typically shorter than the other lead.
How to Order

For basic electrical projects dealing with LEDs and breadboards, the best LED to use is the T-1 $\frac{3}{4}$ since it is the least expensive and available in a variety of colors. This type of LED is known as a thru-hole component which makes its use with breadboards easy.

1. The site from where we will be ordering is Newark.com. For us, they will be supplying components, but they also supply other services.

2. Once making your way to the homepage, in the search bar type “led”. This will take you to a page displaying various search results.

3. After searching, a list will come up. Click on “LEDs – Standard Single Color (Under 75 mA)”.

4. Here, the only filters of interest are “Bulb Size”, “LED Color”, and “Luminous Intensity”. Check the “T-1 $\frac{3}{4}$” box, and the color and brightness intensity of your choice!

5. After clicking “Show Results”, you will see results matching your specifications. You can check desired parts and compare them or click on the part number where you can find the data sheet. Once parts are selected you are ready to buy!