

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 $\frac{3}{4}$. The "T" refers to the shape and the approximate diameter in $\frac{1}{8}$ ths of an inch. These are often listed as 5mm.

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.

Anode



The diameter of an LED refers to the diameter of the case not including the lip at the bottom.

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 *cathode*. It is connected to a negative voltage and is typically shorter than the other lead.

Cathode

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

- Flashing / Blinking (29)
- LEDs - High Brightness / High Power Multicolor (Over 75mA) (1)
- LEDs - High Brightness / High Power Single Color (Over 75mA) (1)
- LEDs - High Brightness / High Power White (Over 75mA) (1,2)
- LEDs - Miscellaneous (1)
- LEDs - Standard Multicolor (Under 75mA) (382)
- LEDs - Standard Single Color (Under 75mA) (3,066)
- LEDs - Standard White (Under 75mA) (268)
- More Optoelectronics & Displays (315)
- Photo Diodes (5)
- Photo Transistors (1)

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

Newark Part No.	Manufacturer Part No	Manufacturer / Description	Avail	Price	Qty	Series
97K4041	L02R5000Q1	LED TECHNOLOGY LED, GREEN, T-1 3/4 (5MM), 3.7MCD, 567NM ★★★★★ Write a Review Ask a Question	777	Price for: Each 1 1+\$0.301 250+\$0.271 500+\$0.241 1000+\$0.217 More Pricing	1	
			777 in stock for same day shipping			
			see cut-off times			
			Check more stock			

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!