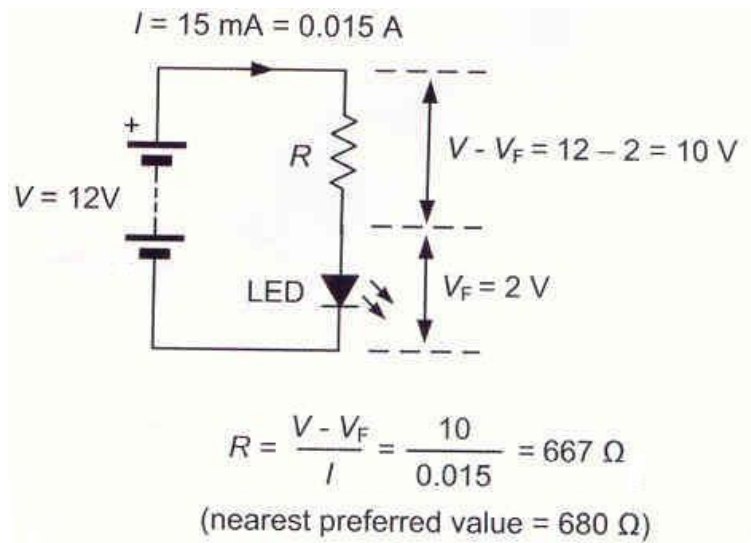


How to calculate the size of a series resistor for LEDs

The following shows the formula and gives an example of how use it



Where:

R= Series resistor

V = the battery voltage

V_f = LED forward voltage

I = LED forward current

V_f and I Can usually be obtained from the LED Supplier

This formula is preferred to the one in the components catalogue Because you can change the brightness by altering the series resistor to change the forward current. The components formula works to a fixed forward current..

If you have a group of different coloured LEDs on a mast they look more realistic if they are to a similar brightness. However different colours have different brightness's but this can be controlled by varying the current by means of the series resistor.

A simple way to compare the brightness is to use a device that was shown in my talk. This is called an LED Tester, obtainable from Maplin Code No. N71AU. This is not only excellent for testing your LEDs but you can plug various LEDs in at different currents and with your eyes gauge the brightness's and so select the current required.

The above information has been provided by Mr John Blakemore.