

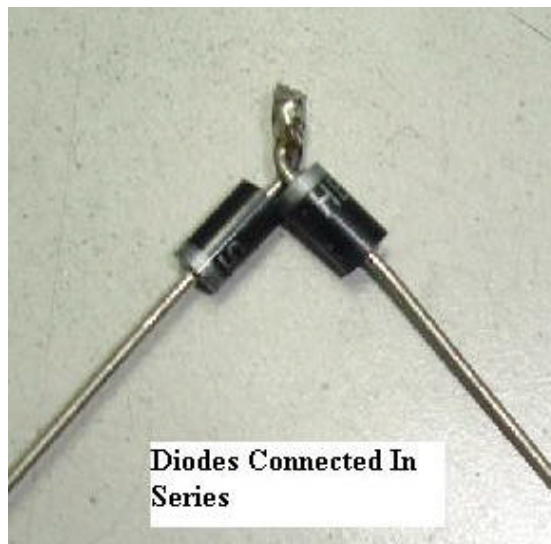
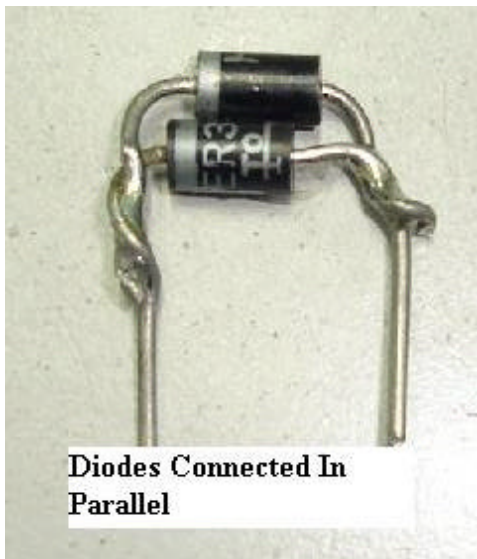
Diode Replacements by connecting them

In Series And Parallel

One important diode specification is the Peak Inverse Voltage (PIV) and ampere (A) ratings. Assuming you have a diode with the specification of 800V 2A and you want to find a replacement. You can always use diodes connect in series method to get the desired specification.

For example, two 400V PIV 2A diodes connect in series will get you 800V PIV 2A. You can always use this method for replacement. **To make the diodes last longer connect a resistor and a capacitor and place them in parallel across each diode to equalize the PIV drop and guard against transient voltage.** In order to find the resistor value, as a rule of thumb, multiply the PIV rating of the diodes by 500 ohms. For example, an 800 PIV diode should be shunted by 800×500 equal to 400,000 ohms. **The capacitor value, use a 0.01-microfarad ceramic disc capacitor connected across each diode.**

If a 400V PIV 10A diode needs replacement, you can use two 400V PIV 5A diodes in parallel or use two 200V PIV 10A diodes in series to get the desired specification. In Parallel the amperage adds together but the PIV remains the same. In series the PIV adds together but the amperage remains the same.



Wiring diodes in series has the advantage of using the voltage drop across the combined diodes to maintain a constant voltage from a power supply. Each diode has a drop of 0.7V, and this voltage drop is multiplied by the number of diodes wired. So to obtain a constant voltage of 7V from a 9V power supply, series connecting 3 diodes should work.