

# Diode Peak inverse voltage

## In semiconductor diodes

As a general term applied to semiconductor diodes, **Peak Reverse Voltage (PRV)** or **Peak Inverse Voltage (PIV)** is the maximum voltage that a diode can withstand in the reverse direction without breaking down or avalanching. If this voltage is exceeded the diode may be destroyed. **Diodes must have a PRV or PIV rating that is higher than the maximum voltage that will be applied to them in a given application.**

## In rectifier applications

For rectifier applications **Peak Reverse Voltage (PRV)** or **Peak Inverse Voltage (PIV)** is the maximum value of reverse voltage which occurs at the peak of the input cycle when the diode is reverse-biased. The portion of the sinusoidal waveform which repeats or duplicate itself is known as the cycle. The part of the cycle above the horizontal axis is called the positive half-cycle, or positive alternation; the part of the cycle below the horizontal axis is called the negative half-cycle or negative alternation. **With reference to the amplitude of the cycle, the PIV is specified as the maximum negative value of the sine-wave within a cycle's negative alternation.** In case of a Bridge rectifier  $PIV = \text{Peak Input Voltage}$