

# PIV - Peak Inverse Voltage

## What is PIV rating in a diode?

PIV stands for '**Peak Inverse Voltage**'. It refers to the maximum reverse bias voltage a semiconductor diode or other semiconductor devices can withstand without damaging themselves. The peak inverse voltage is also known as **peak reverse voltage**.

PIV rating of a diode is temperature-dependent. It increases with an increase in temperature and decreases with a decrease in temperature. Peak Inverse voltage rating is determined by the manufacturer. A typical diode used in rectifiers has a PIV rating of at least 50Vdc at room temperature. However, diodes with high peak inverse voltage ratings of thousands of volts are also available in the market.

## What happens if the PIV rating of a diode is exceeded?

If the applied reverse bias voltage is too great that it exceeds the rated peak reverse voltage, avalanche breakdown may occur in the diode. This can permanently damage the diode.

PIV rating  
Image alt="Placeholder for a diagram showing the peak inverse voltage (PIV) rating on a diode's characteristic curve. The diagram is missing, but the text indicates it would show a point marked 'knee' corresponding to the peak inverse voltage." data-bbox="55 603 287 619"/>

Source: Wikipedia. The voltage corresponding to point marked 'knee' is called the peak inverse voltage.

**Further reference:** <https://www.mouser.in/datasheet/2/308/MMBD1405-D-1811593.pdf>

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