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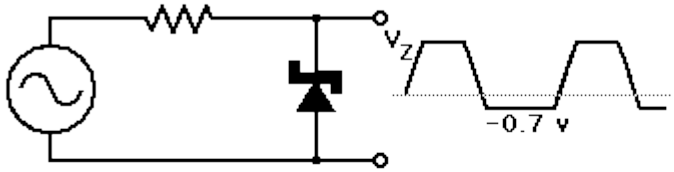
Introduction To Analog Electronics – Lesson 4: Zener Diodes

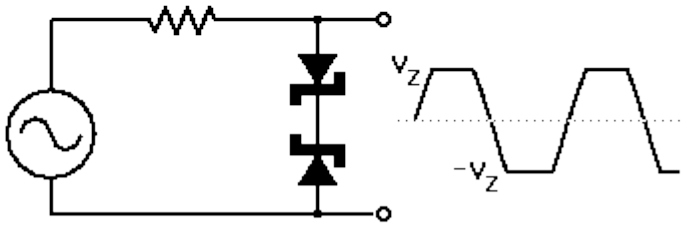
FORMULAS

The following formulas and information are meant to go with the online lesson found here:
http://www.pyroelectro.com/edu/analog/zener_diode/

ZENER DIODE CLIPPERS

As we saw in the experiment, the effect that the zener diode had on our AC sine wave was that the output was clipped at the zener voltage (represented in the figure below as Vz). Similarly, when we turned the zener diode 180º around in the circuit it clips the negative edge of the AC sine wave.





One other part of the experiment that we didn't perform since we only have 1 zener diode is a double zener diode clipper. If we put two zener diodes in the circuit like in the second figure above, we would get a true AC sine wave clipping circuit where both edges of the AC sine wave would be clipped at the Vz and –Vz Zener Voltage points.

ADDITIONAL INFORMATION

If you have any questions about the formulas or information found in this document, please feel free to head on over to the forums and ask us some questions!
http://www.pyroelectro.com/forums/