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# Introduction to Electronics

*An introduction to electronic components and a study of circuits containing such devices.*

**TECH**

# Limiters



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*Introduce diode limiters*

**TECH**

# Previous Lesson

- Introduced an application of rectifiers: AC to DC conversion

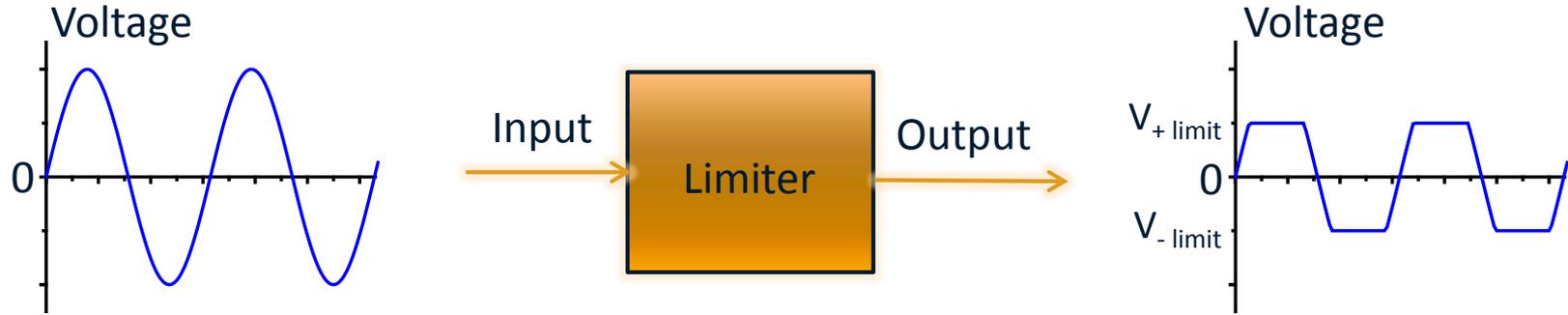
# Lesson Objectives

- Introduce limiters
- Examine their behavior for sinusoidal inputs
- Analyze limiter circuits

# Limiter (or Clipper)

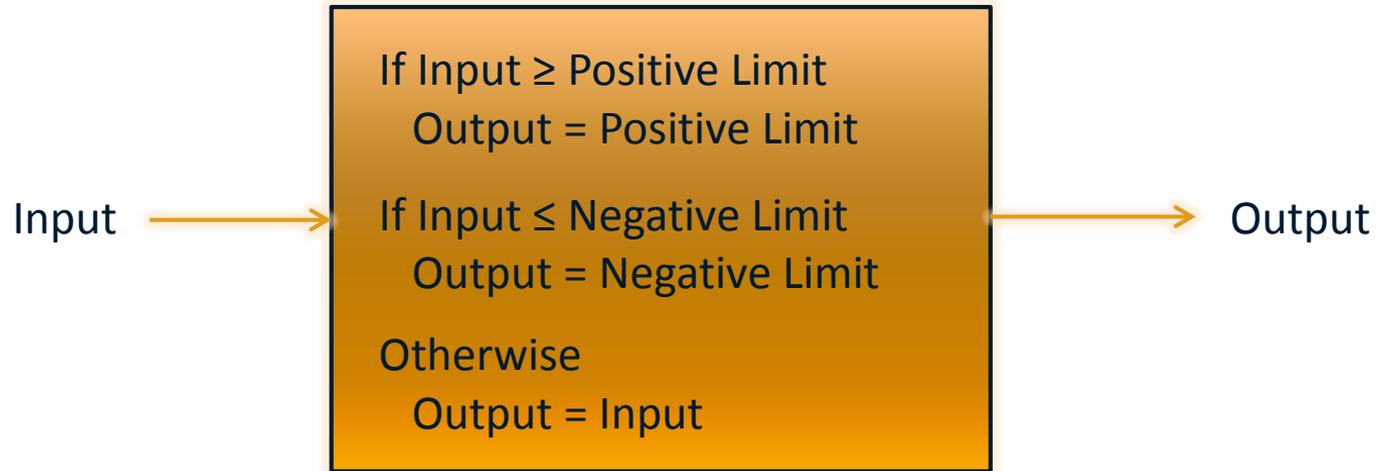
- A non-linear device that limits the output voltage to a particular level

# Sinusoidal Input Voltages

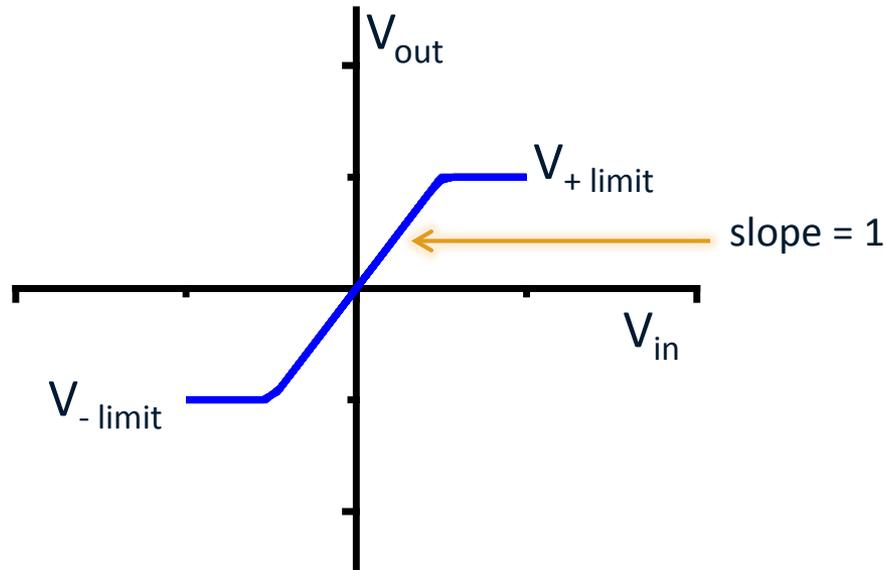


# Limiter

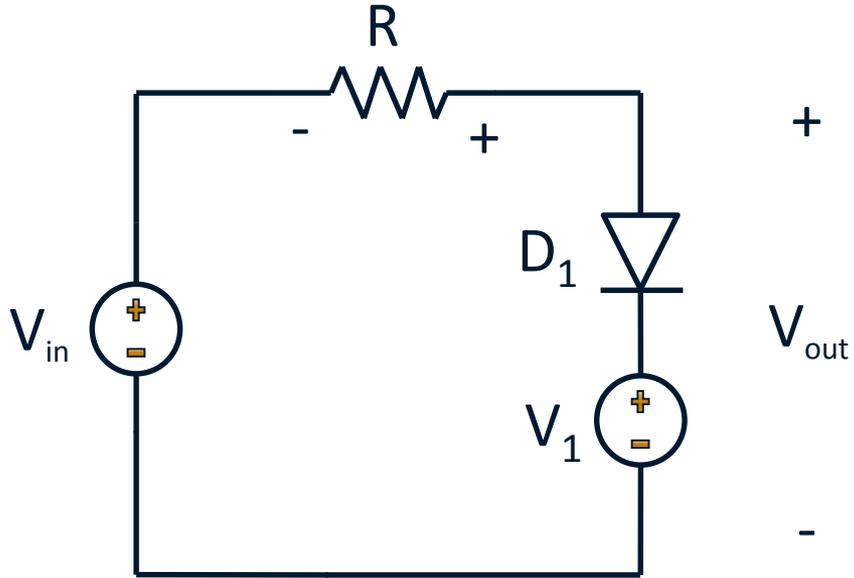
## Limiter



# Voltage Transfer Characteristic

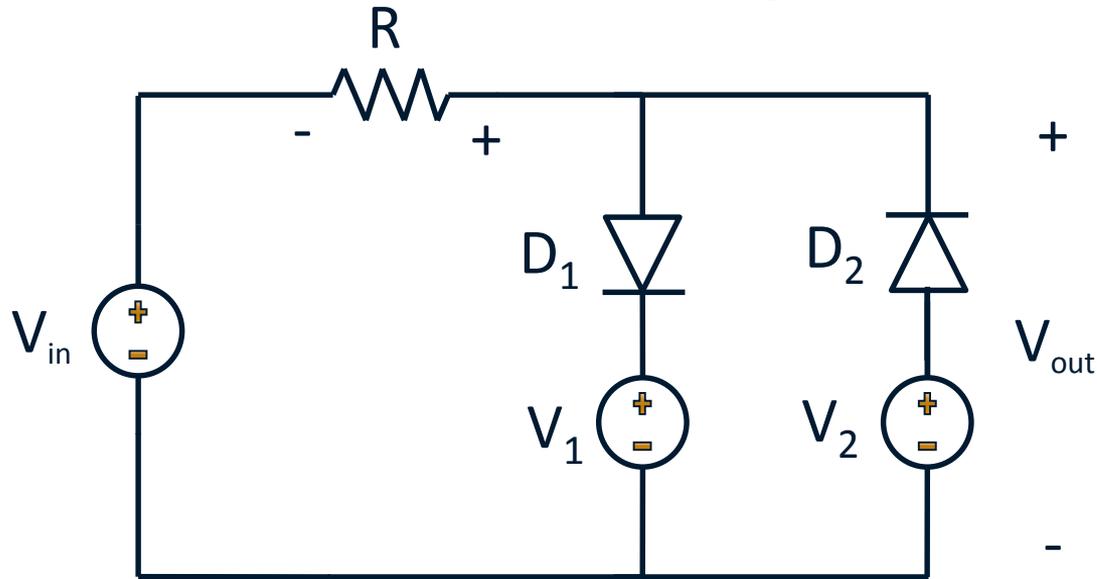


# Positive Limiter Circuit



Ideal Diode

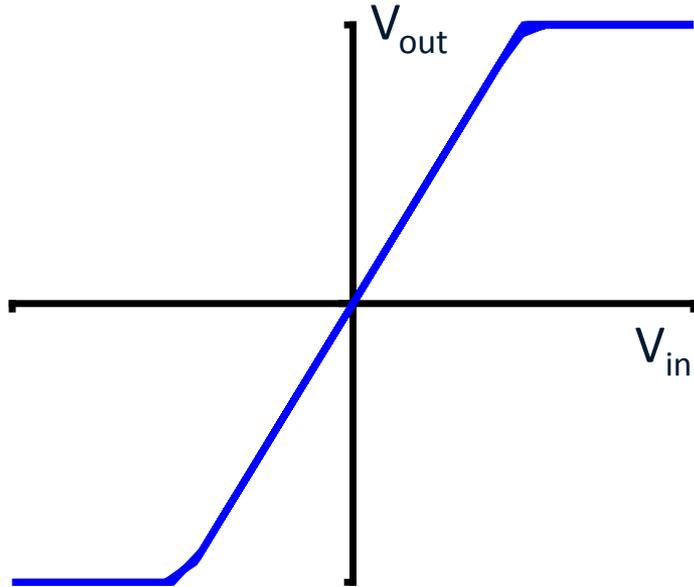
# Positive and Negative Limiter Circuit



Ideal Diodes

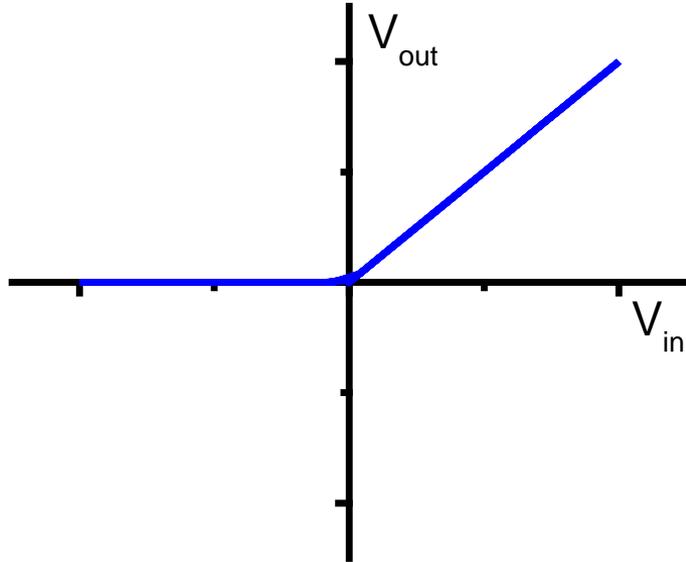
$$V_1 > V_2$$

# Voltage Transfer Characteristic



# Half-Wave Rectifier

- A special case of a limiter



# Summary

- ⦿ Limiter operation
- ⦿ Limiter circuits

# Next Lesson

- Voltage Regulators