

## DC Circuits

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## Rules of DC Series Circuits

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- ❑ Same amount of current flow through all the devices.
  - ❑ Each device has different voltage drop (consumed).
  - ❑ Sum of all the voltage drops equal available voltage from the source. This is also called Kirchhoff's voltage law.
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## DC Series Circuit

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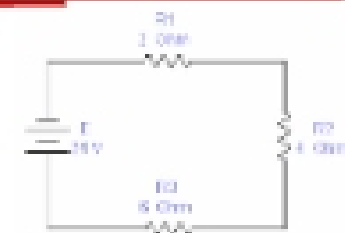
- Total Resistance
  - Total Current
  - Available Voltage
  - Voltage Drop
  - Available Power
  - Consumed Power
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## Example

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- ❑ Find
- (a) Total Resistance
- (b) Total Current



## DC Parallel Circuit

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- Branch Current
  - Available voltage across
  - Total Resistance
  - Total Current
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## Kirchoff's Current Law

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"Sum of current flowing into a node is the same as the sum of currents flowing away from the node".



Example:  
What is the direction and magnitude of current flowing in fourth branch?

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## Example

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- Find:
- (a) Branch Currents
  - (b) Total Resistance
  - (c) Total Current
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## Series-Parallel Circuits

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- Branch Resistance
- Total Resistance



## Series-Parallel Circuits

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- Voltage drop across series resistor
- Available Voltage
- Branch Currents

