

Circuit Diagrams

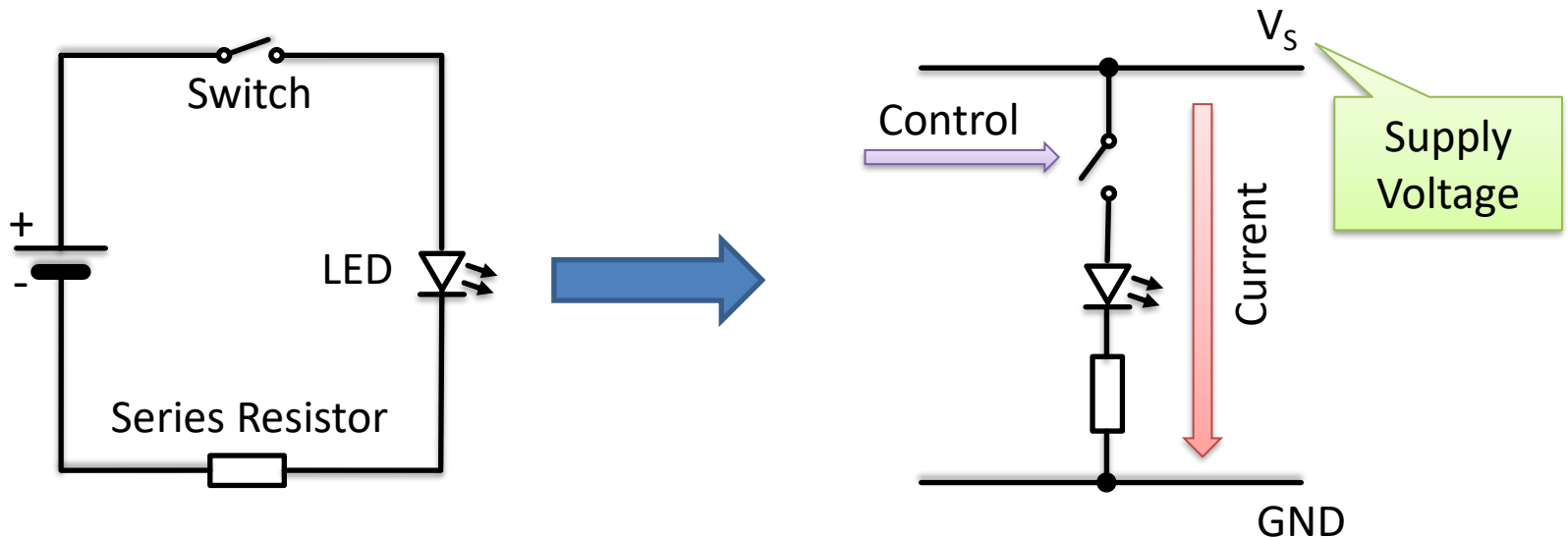
Networks and Embedded Systems

First Grade Level

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Circuit Diagrams (1)

- In practice circuit diagrams are used
- For this the voltage source is split

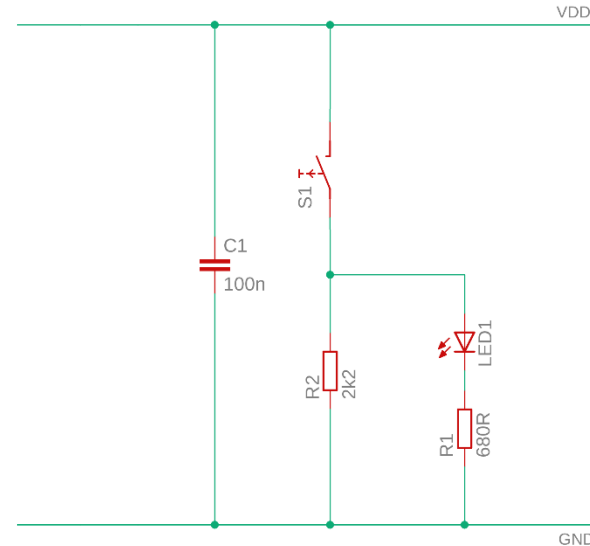


Circuit Diagrams (2)

- The current source (+) is at the top
 - Labeled by V_{CC} , V_{DD} etc.
- The current sink (-) is at the bottom
 - Labeled by Ground, GND, V_{SS} etc.
- The current flows from top to bottom
- The loads are between
- The control comes from the left

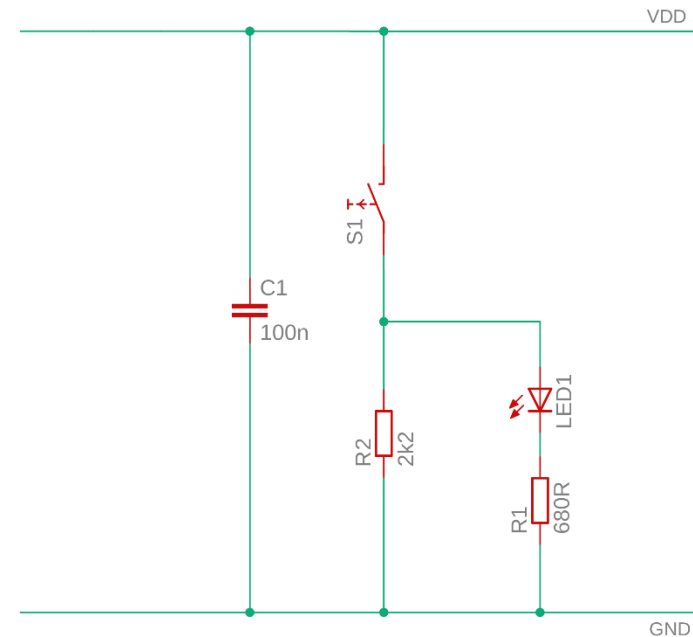
Circuit Diagrams (3)

- In a circuit diagram ...
 - ... there are components
- Every component ...
 - ... has a name
 - ... has optionally a value
- For the values one uses ...
 - ... the unit prefix as decimal point or ...
 - ... the unit symbol if there is no prefix



Circuit Diagrams (4)

- In this circuit diagram there are:
 - A capacitor C1
 - The Capacity of C1 is 100 nF
 - A switch S1
 - A light-emitting diode LED1
 - The resistors R1 and R2
 - The resistance of R1 is 680 Ω
 - The resistance of R2 is 2.2 k Ω



Control

- Who controls?
 - In the last circuit it is the switch
- How does it control?
 - It opens or closes the circuit
- Who gets controlled?
 - The light-emitting diode gets controlled
- What is its effect?
 - The light-emitting diode shines or not