Transistor Circuits

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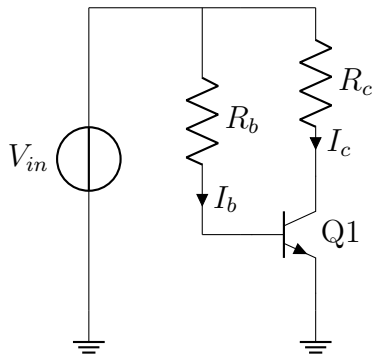
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1 Basic Common Emitter circuit

Figure 1: Basic Common Emitter Circuit

For a transistor in forward active mode, we can use the approximation

$$I_c = \beta I_b \tag{1.1}$$

We can use the fact that the voltage drop across a resistor divided by it's resistance is the current that flows through it to get

$$\frac{V_{in} - V_{ce}}{R_c} = \beta \frac{V_{in} - V_{be}}{R_b} \qquad (1.2)$$