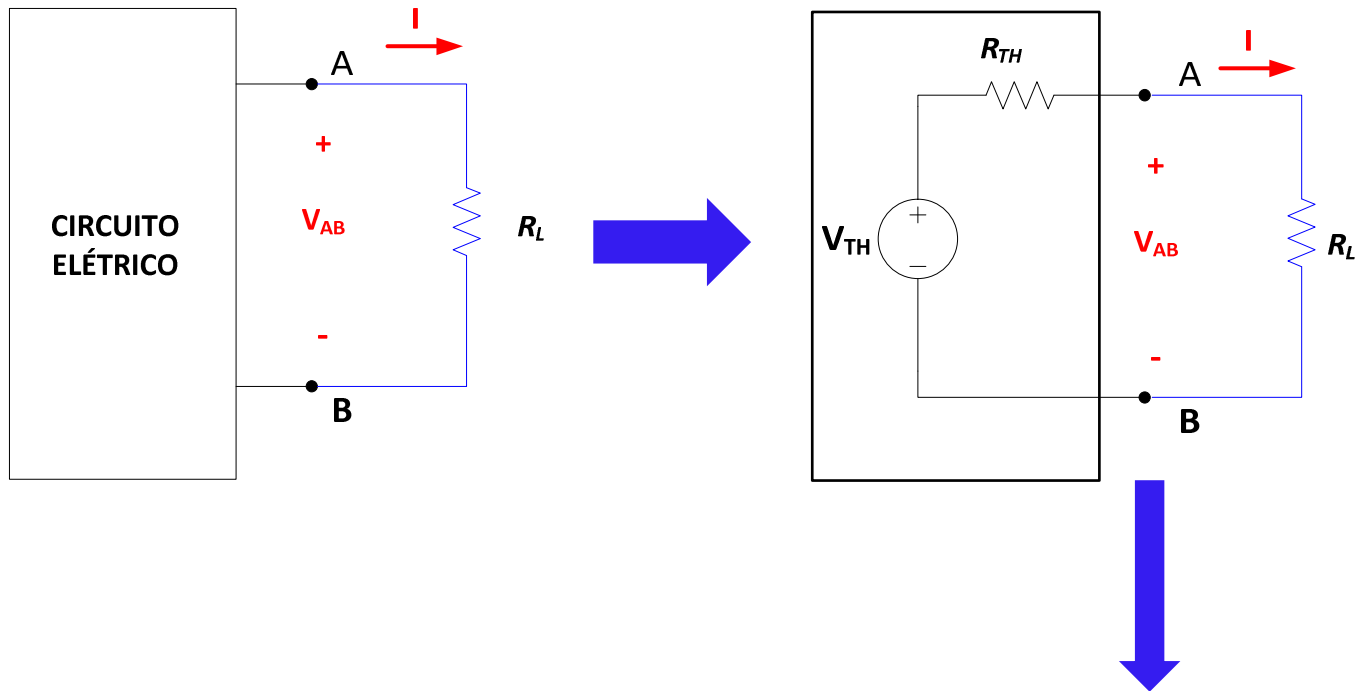


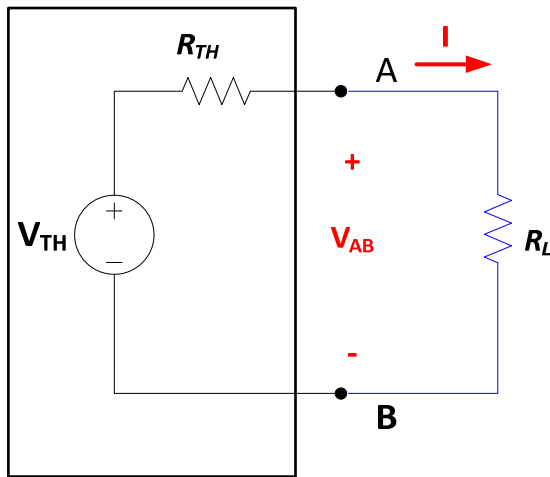
TEOREMA DA MÁXIMA TRANSFERÊNCIA DE POTÊNCIA

POTÊNCIA TRANSFERIDA DE UM CIRCUITO PARA UMA CARGA RESISTIVA R_L

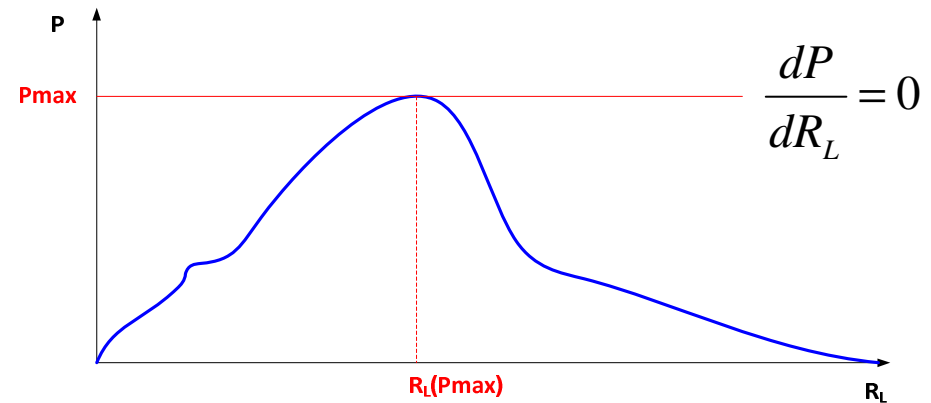


$$P = +V_{AB} \cdot I = \frac{V_{AB}^2}{R_L} = R_L \cdot I^2 \quad \longrightarrow \quad P = R_L \cdot \left(\frac{V_{TH}}{R_{TH} + R_L} \right)^2$$

CONDIÇÃO DE MÁXIMA TRANSFERÊNCIA DE POTÊNCIA



$$P = R_L \cdot \left(\frac{V_{TH}}{R_{TH} + R_L} \right)^2$$



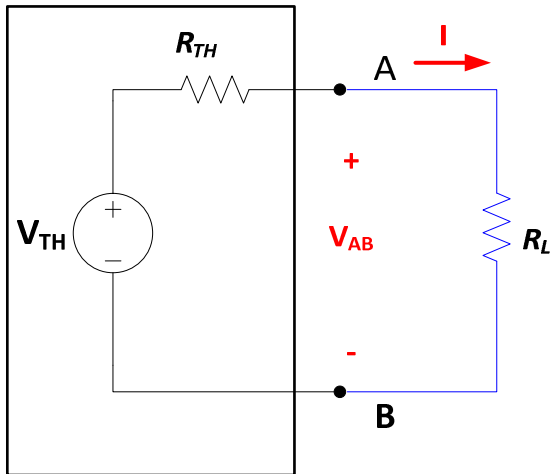
$$\frac{d}{dx} \left(\frac{u}{v} \right) = \frac{v(du/dx) - u(dv/dx)}{v^2}$$

$$\frac{dP}{dR_L} = V_{TH}^2 \cdot \frac{(R_{TH} + R_L)^2 - R_L \cdot 2(R_{TH} + R_L)}{(R_{TH} + R_L)^4} = 0$$

$$R_L = R_{TH}$$

MÁXIMA POTÊNCIA TRANSFERIDA

$$P = R_L \cdot \left(\frac{V_{TH}}{R_{TH} + R_L} \right)^2$$



$$R_L = R_{TH}$$

$$P_{\max} = \frac{V_{TH}^2}{4R_L}$$