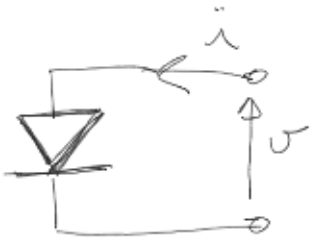
Lezione 32

RESISTORE NON LINEARE

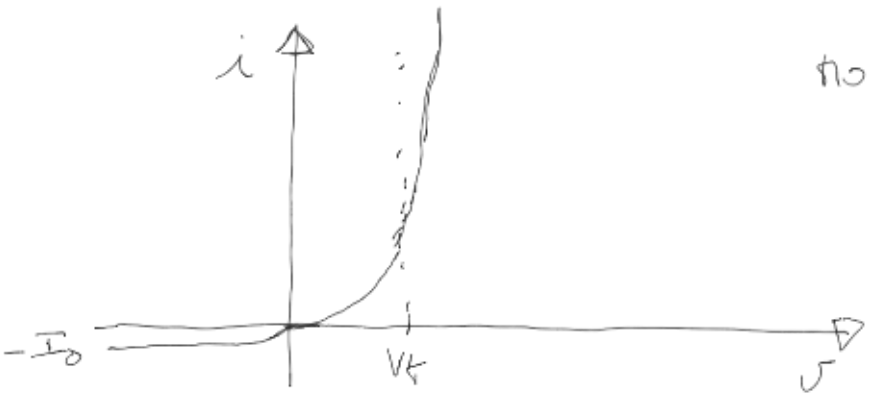
$v = f(i)$ dove f è NON LINEARE

Il DIODO



$i = g(v)$ NON LINEARE

$$i = I_0 \left[e^{\frac{v}{V_T}} - 1 \right]$$



MODELLO REALE

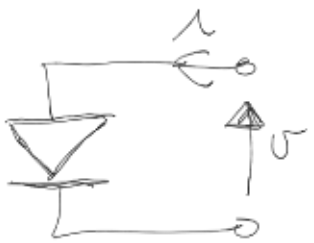
V_T TENSIONE DI SOGLIA ($\simeq 0{,}6\ V$)

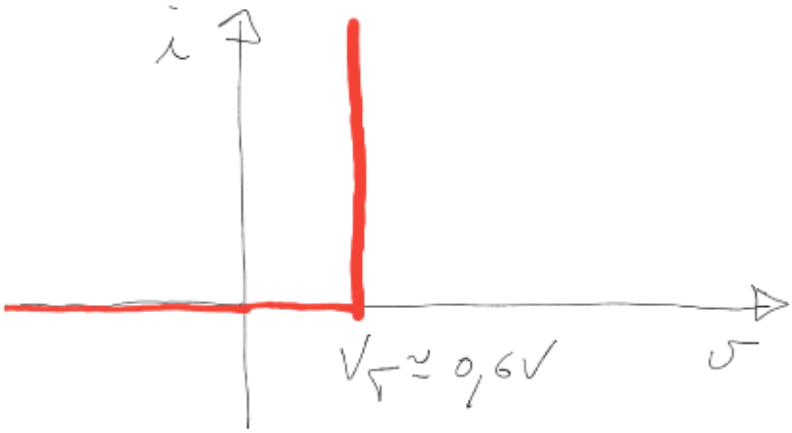
I_0 CORRENTE INVERSA DI SATURAZIONE ($\simeq mA$)

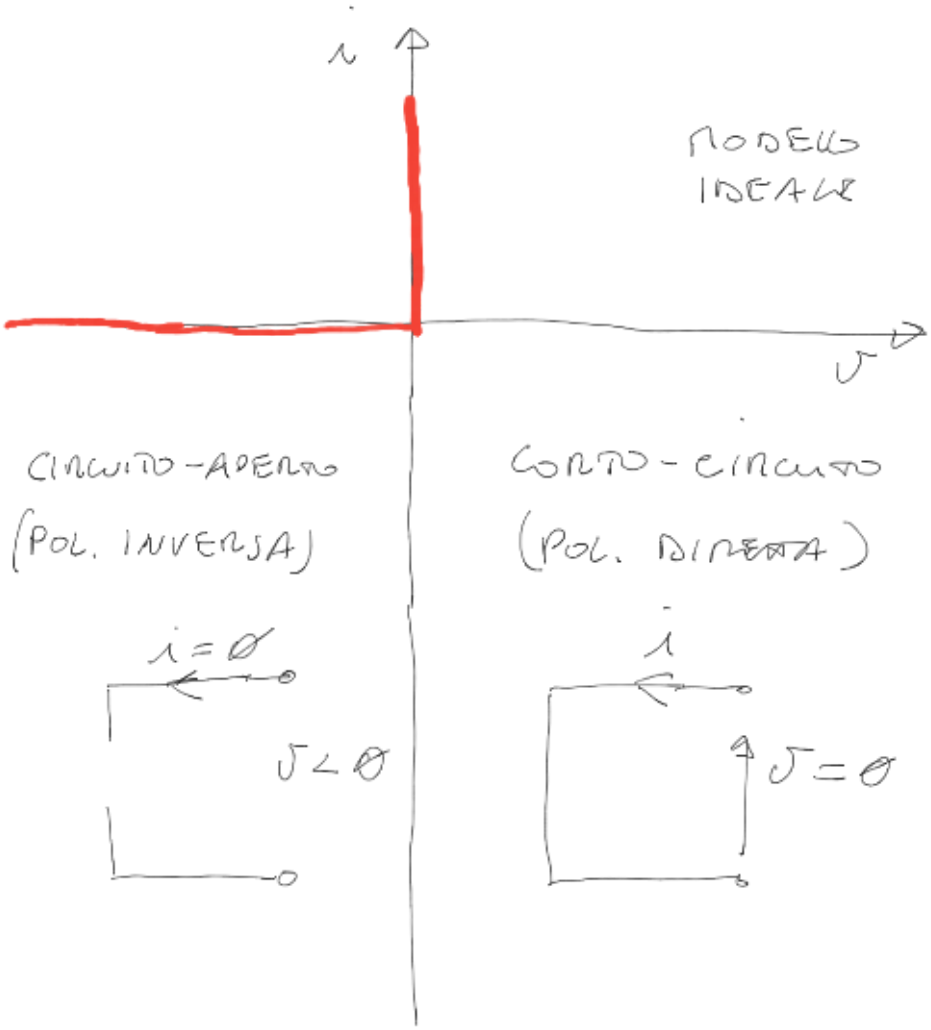
PER $v > 0$ ⟶ POLARIZZAZIONE DIRETTA

PER $v < 0$ ⟶ " INVERSA

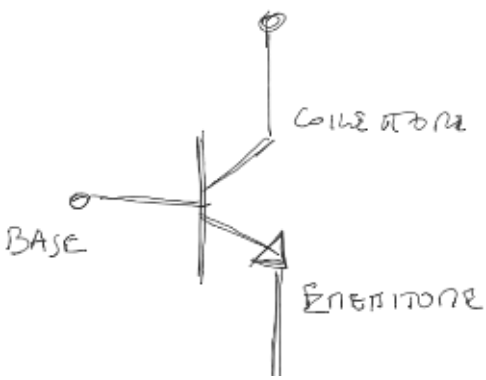
DIODO IDEALE







TRANSISTORE

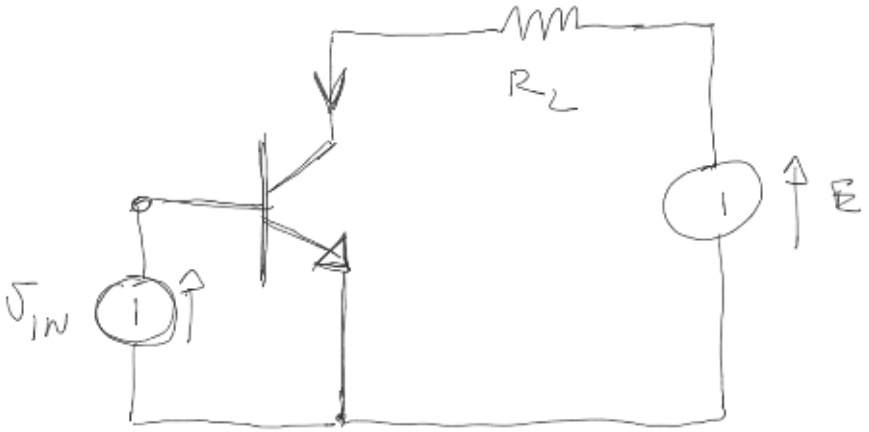


TRANSISTORE BIPOLARE

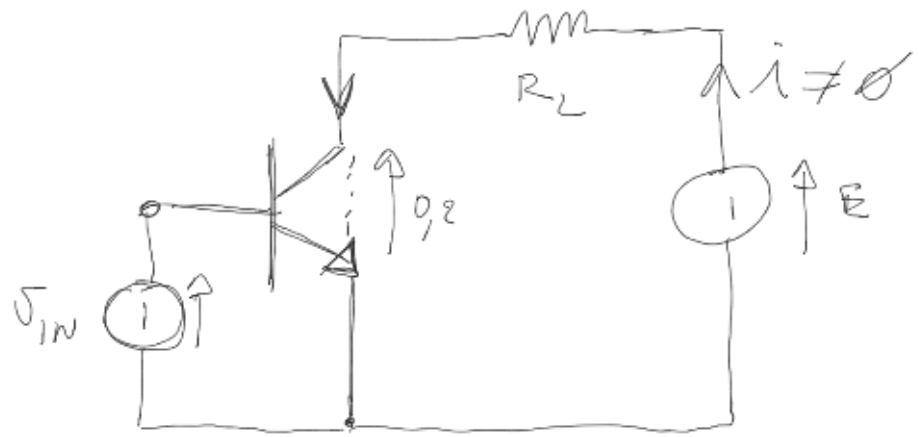
LO UTILIZZEREMO COME INTERRUTTORE PILOTATO:

ZONA DI INTERDIZIONE (OFF)

ZONA DI SATURAZIONE (ON)



SE $V_{IN} \geq 0{,}6V$ (TENSIONE DI SOGLIA) $\longrightarrow$ ON



SE $V_{IN} < 0{,}6V$ (TENSIONE DI INTERDIZIONE) $\longrightarrow$ OFF