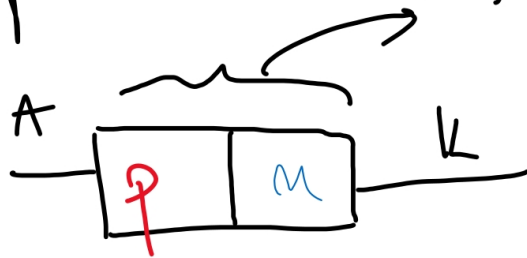


Laborator nr. 1 FM 1:

Dioda semiconductoră (redresoare):

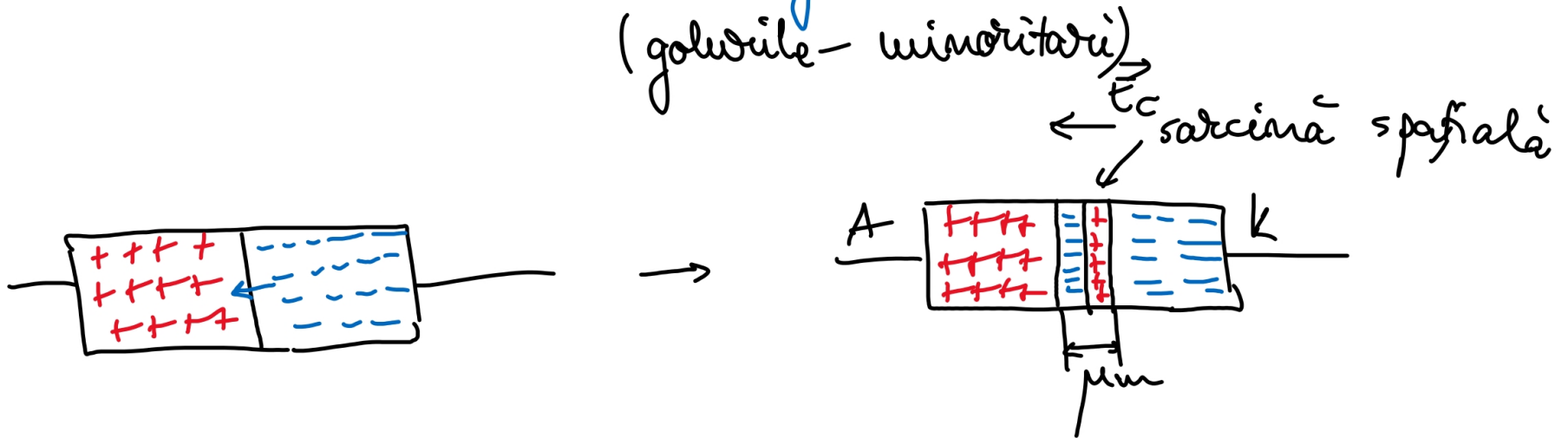
- permite trecerea curentului într-un singur sens.

- joncțiune p-n (Si, Ge)

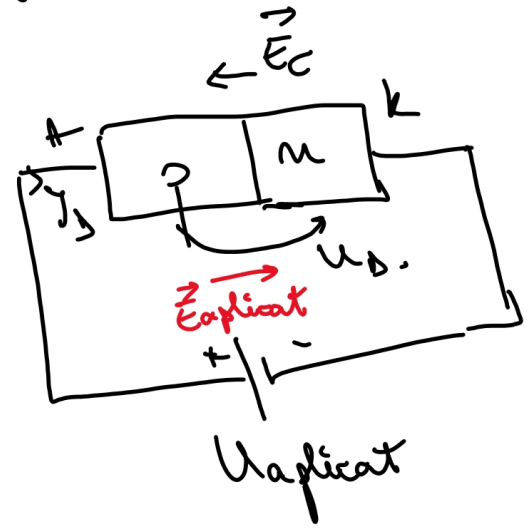


- semiconductor de tip p: *golurile ca purtători majoritari*
(electroni - minoritari)

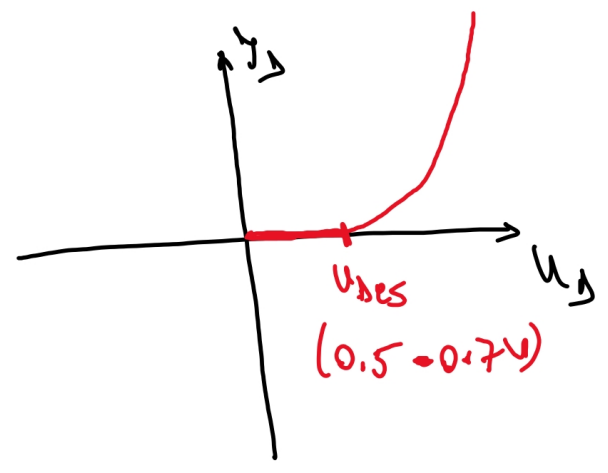
- semiconductor de tip n: *electroni ca purtători majoritari*
(golurile - minoritari)



polăritare directă: (A +, k -)



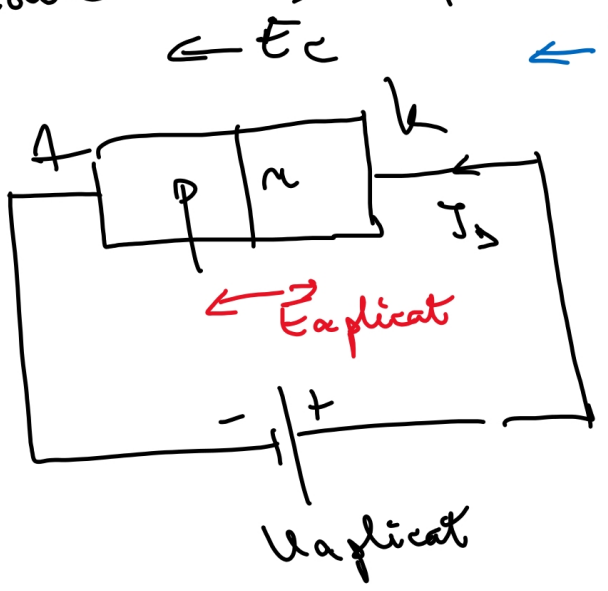
$\rightarrow I_{max}$
 $\leftarrow I_{min}$



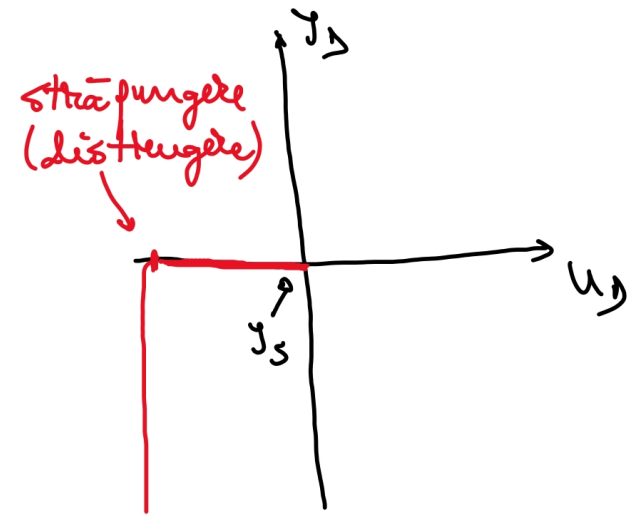
$$I_D = I_S \left(e^{\frac{e U_D}{k_B T}} - 1 \right)$$

$$I_D \approx I_S e^{\frac{e U_D}{k_B T}}$$

polăritare inversă: (A -, k +)



$\leftarrow I_{min}$

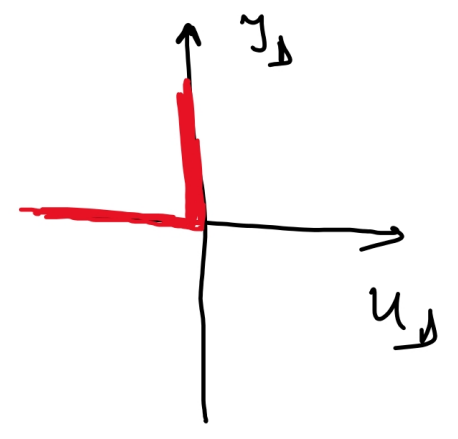
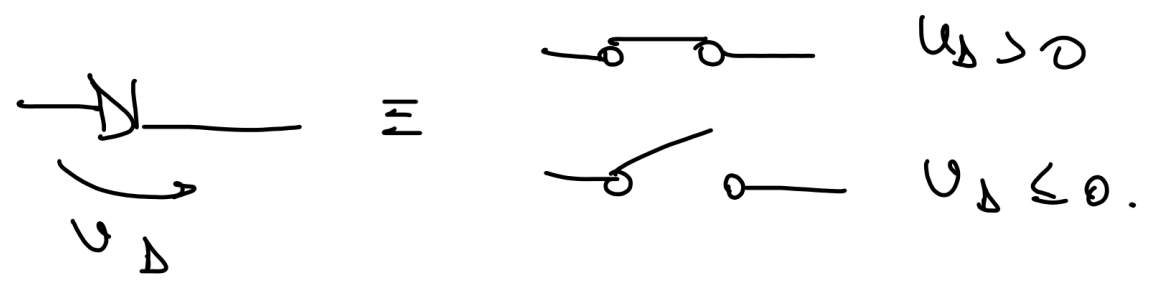


Simbolul diodei

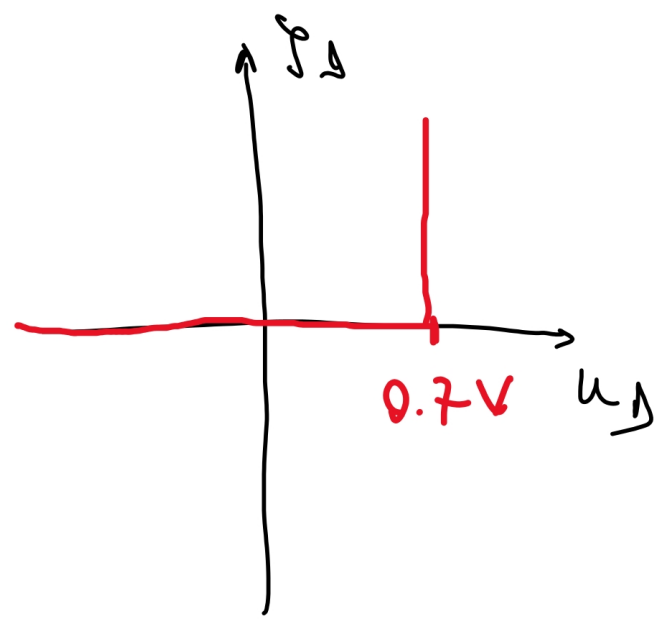
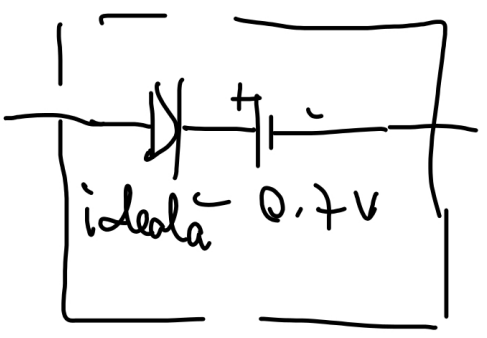


Modele ale diodei:

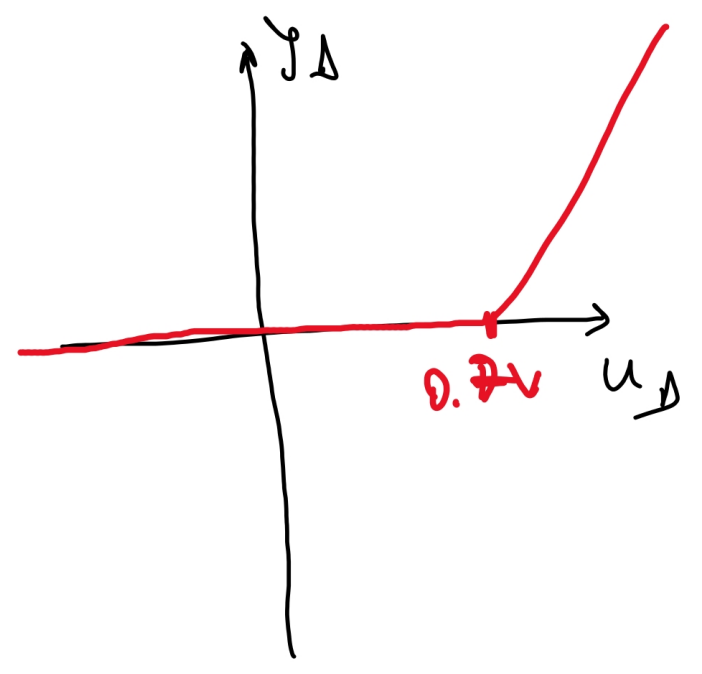
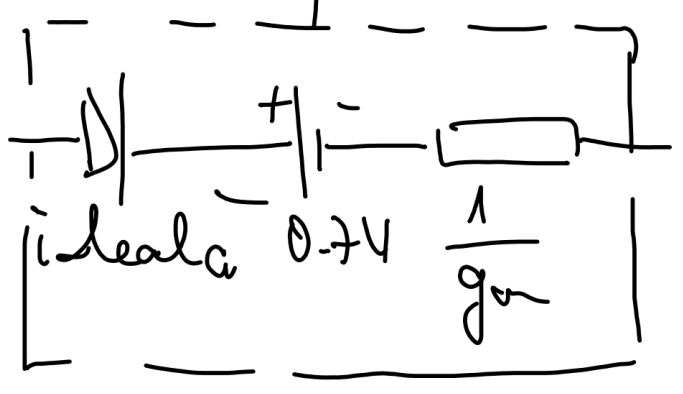
1. Dioda ideală



2. Dioda idealizată



3. Model practic



u_D (V)	I_D (mA)
0.494	0.106
0.599	0.800
0.644	1.850

\Rightarrow

