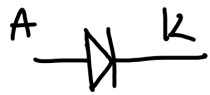


Laborator nr. 1 electronica I :

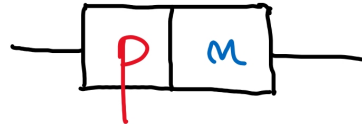
Dioda semiconductoră (redresătoare) :

- jonctiune p-n Si, Ge

Simbolul diodei :

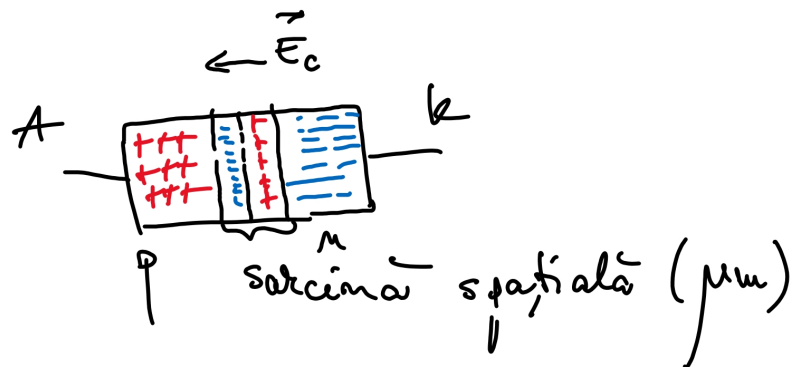
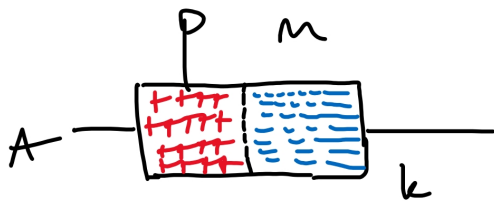


anod catod.
(“anode”) (“cathode”)

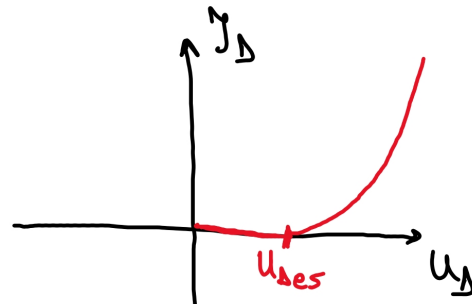
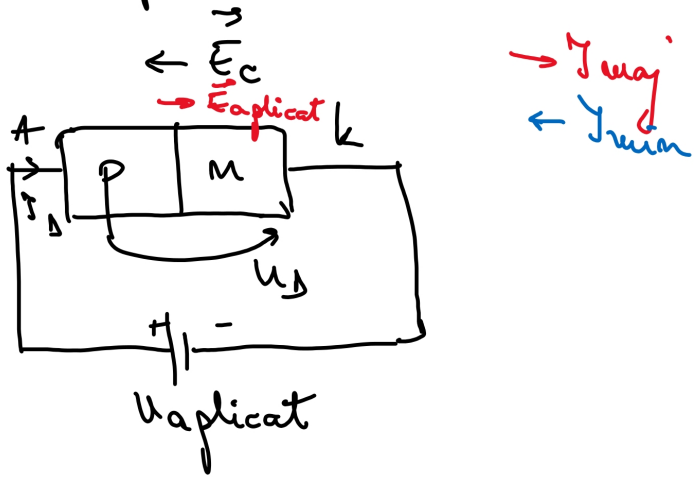


semiconductor de tip p : gaurile sunt purtători majoritari
electroni sunt purtători minoritari

semiconductor de tip n : electroni - purtători majoritari
gaurile - purtători minoritari

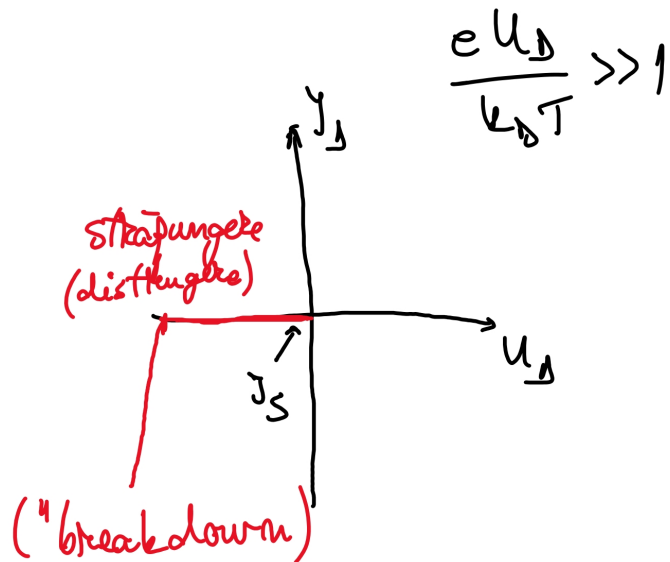
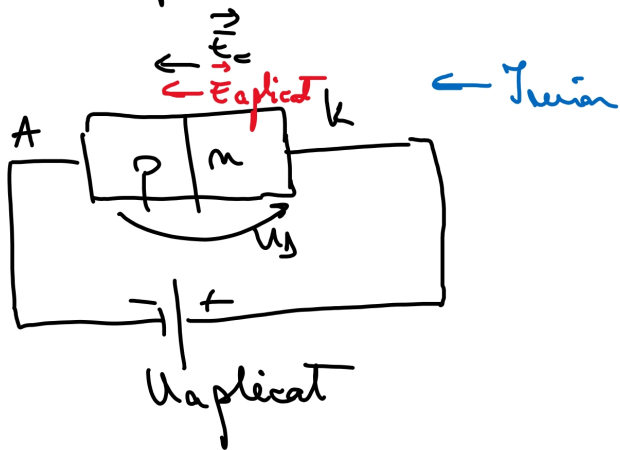


Dioda în polarizare directă:



$$J_D = J_S \left(e^{\frac{eU_d}{k_B T}} - 1 \right) \quad \left| \quad \Rightarrow J_D \approx J_S e^{\frac{eU_d}{k_B T}} \right.$$

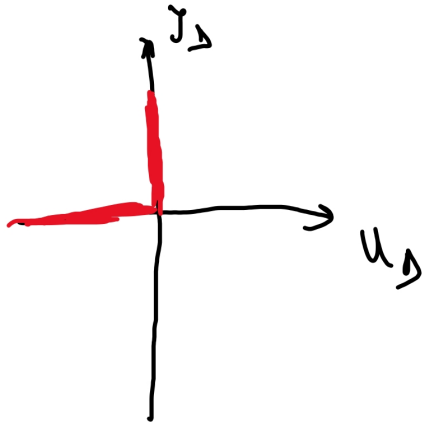
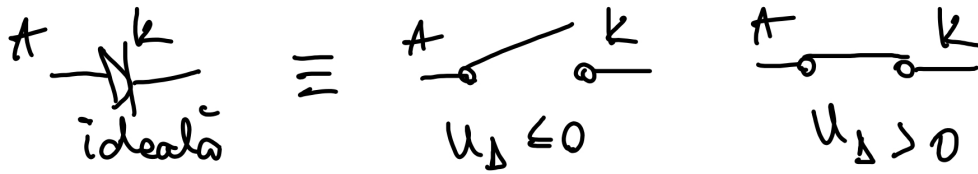
Dioda în polarizare inversă:



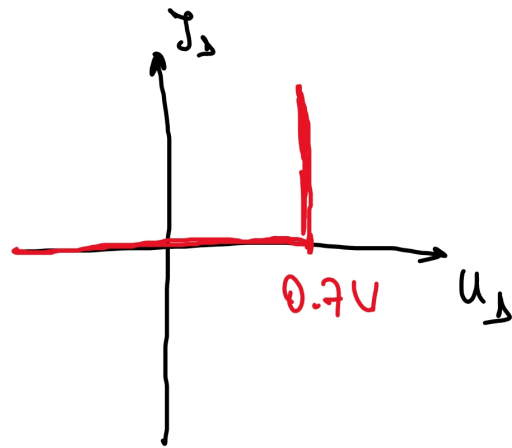
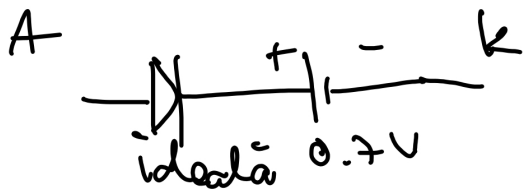
$$\frac{eU_d}{k_B T} \gg 1$$

Modele de diodei semiconductoră:

1. Dioda ideală:



2. Dioda idealizată:



3. Model practic:

