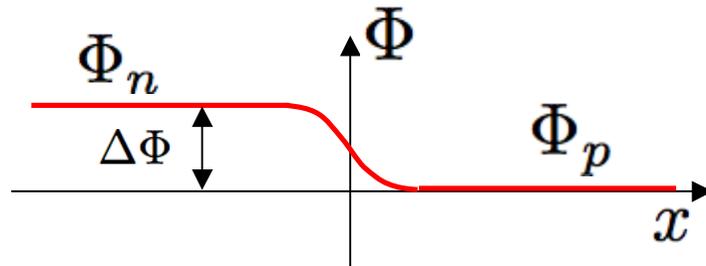
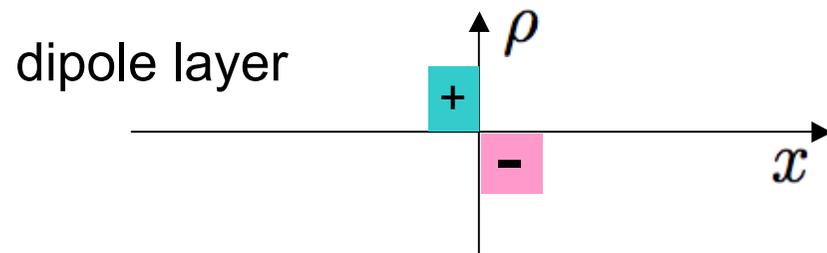
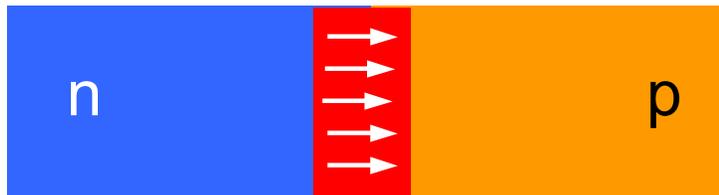


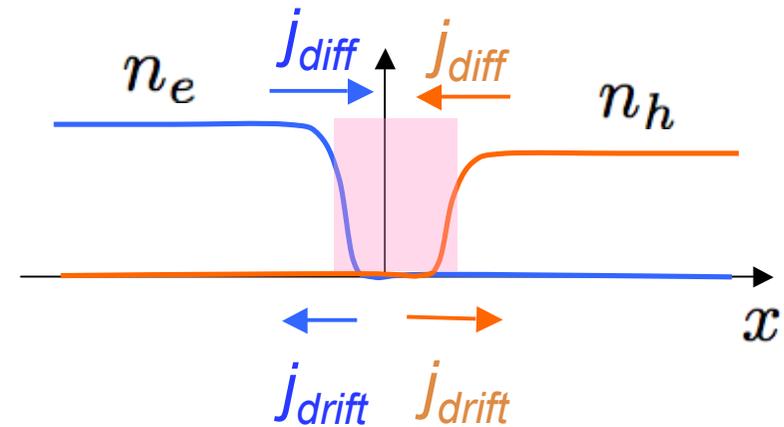
pn-junction

depletion
layer



$$D = \int dx \rho(x)x \rightarrow \Delta\Phi = 4\pi D$$

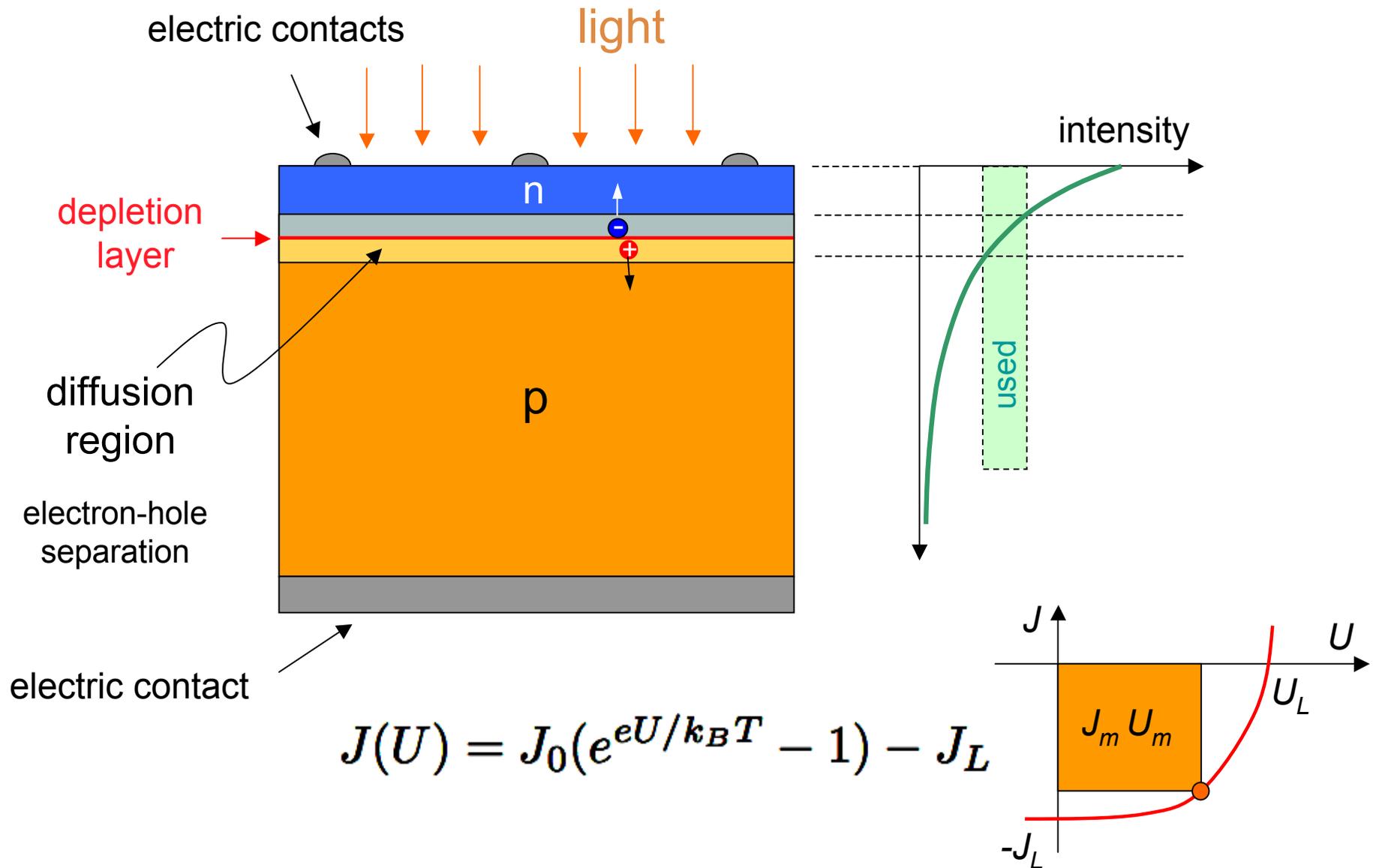
equilibrium



$$\vec{j}_{diff} = \pm eD \vec{\nabla} n$$

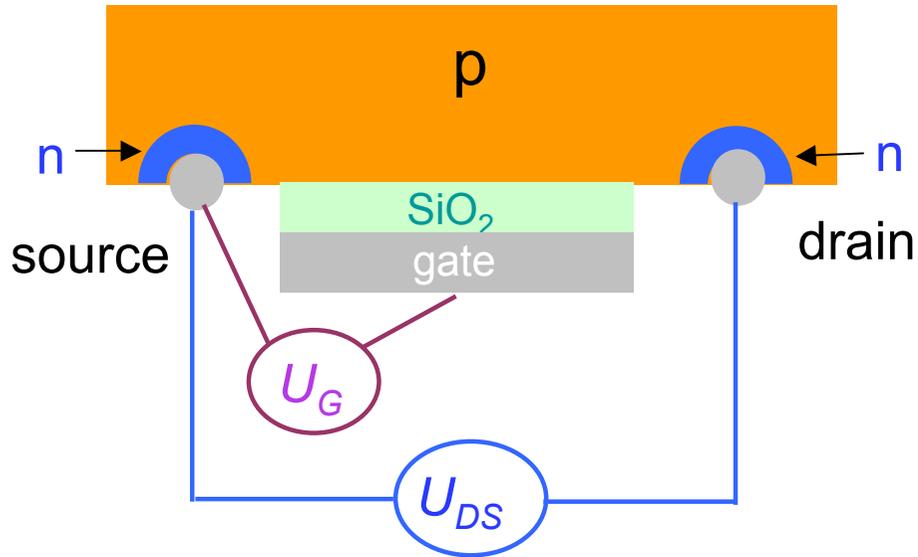
$$\vec{j}_{drift} = \pm e\sigma \vec{\nabla} \Phi$$

Solar cells

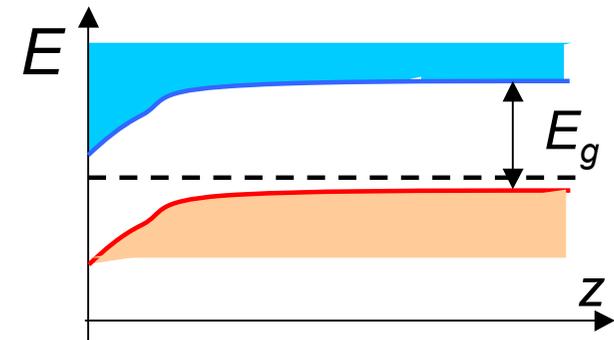


MOSFET

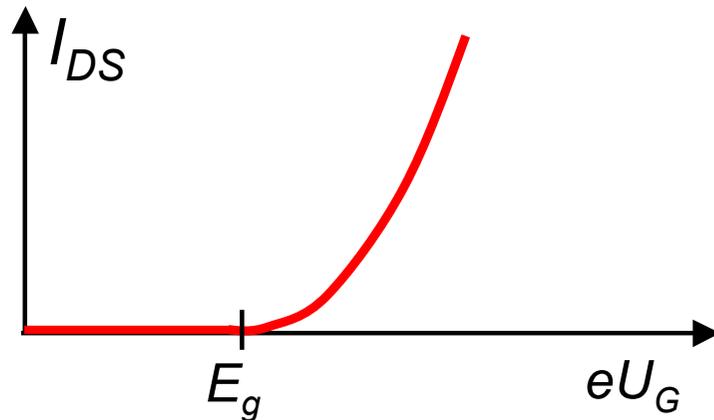
Metal-Oxide-Semiconductor-Field-Effect-Transistor



off: $eU_G < E_g$



$$eU_{DS} > eU_G - E_g$$



on: $eU_G > E_g$

