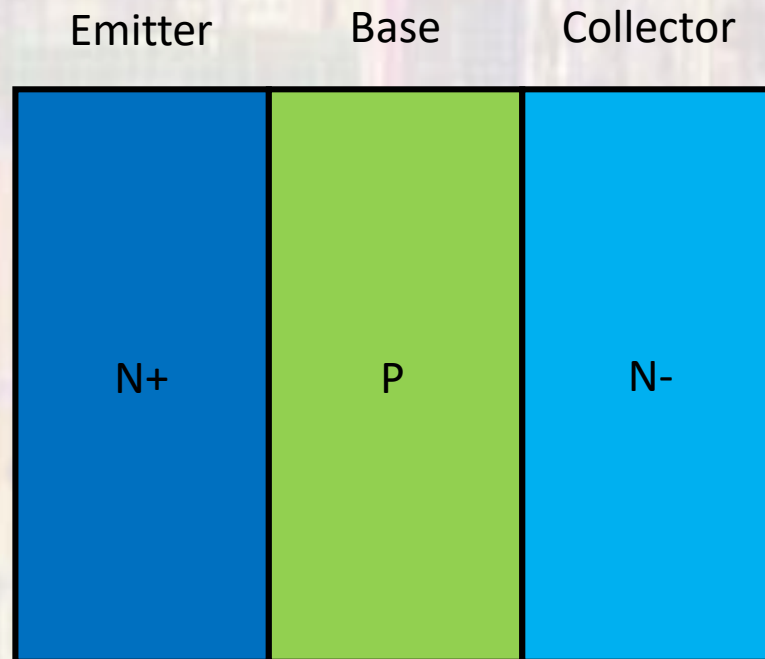


Bipolar Junction Transistor

Last updated 3/19/19

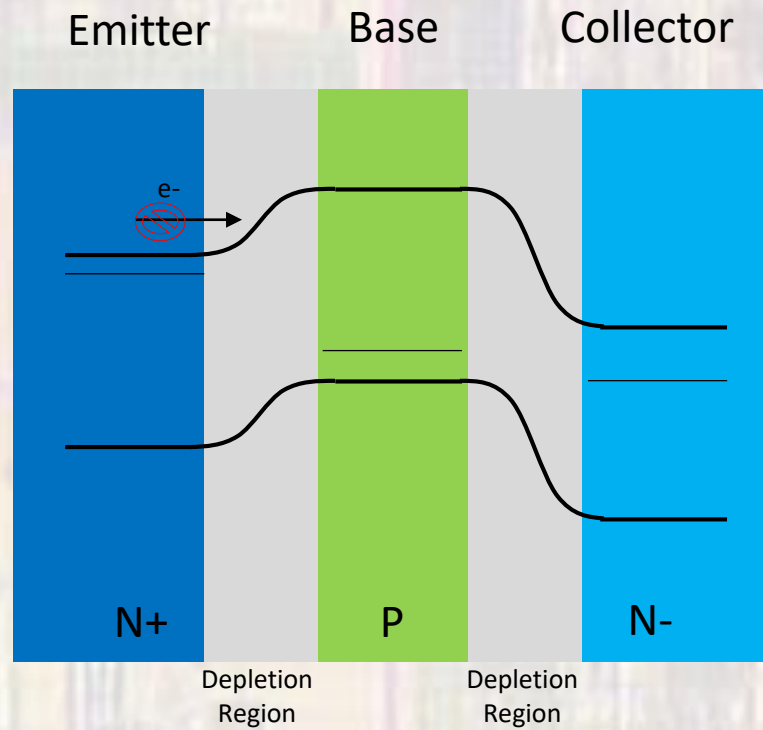
BJT

- Simplified Structure - NPN



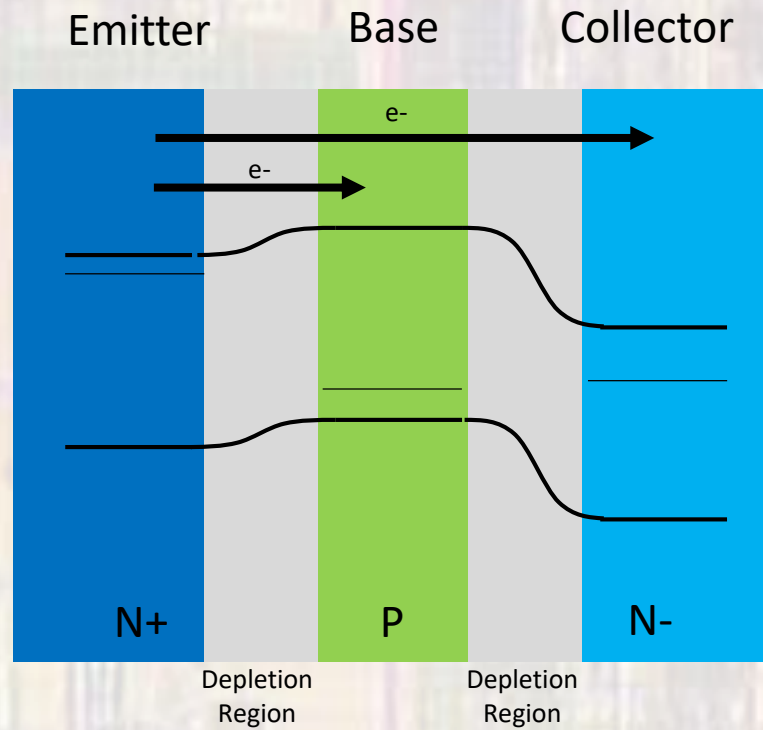
BJT

- Simplified Structure – NPN
 - No Bias



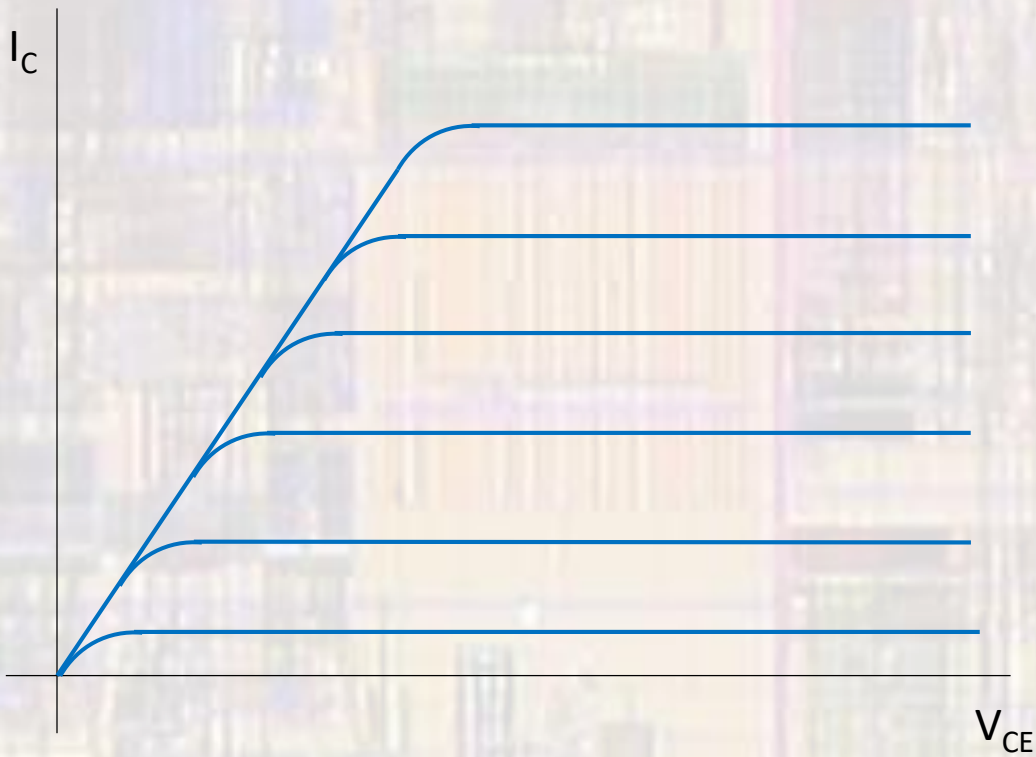
BJT

- Simplified Structure – NPN
 - B-E forward Bias



BJT

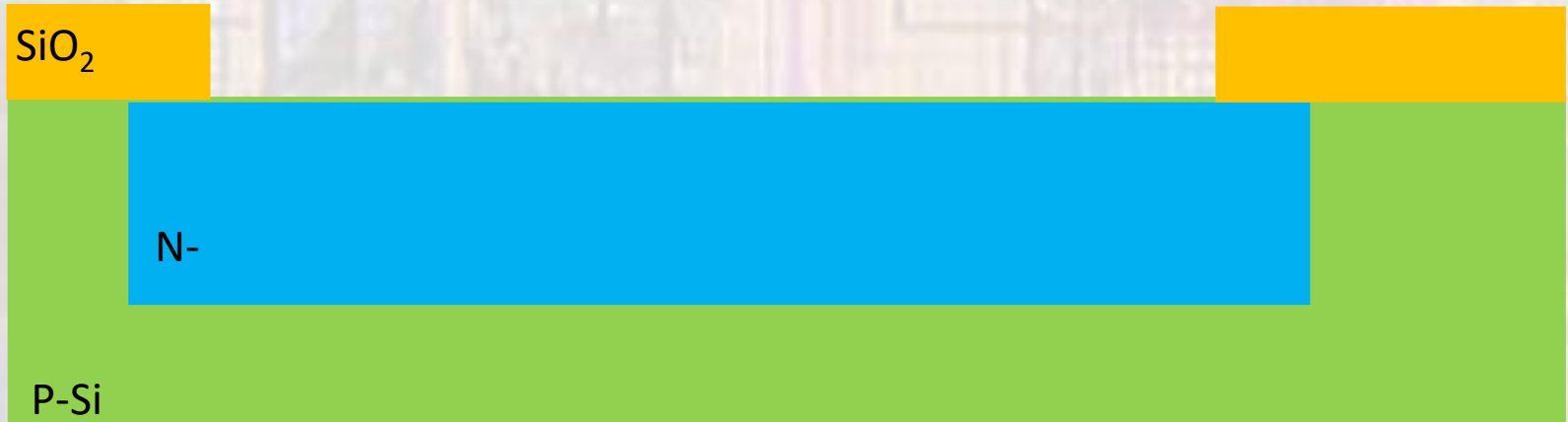
- I-V



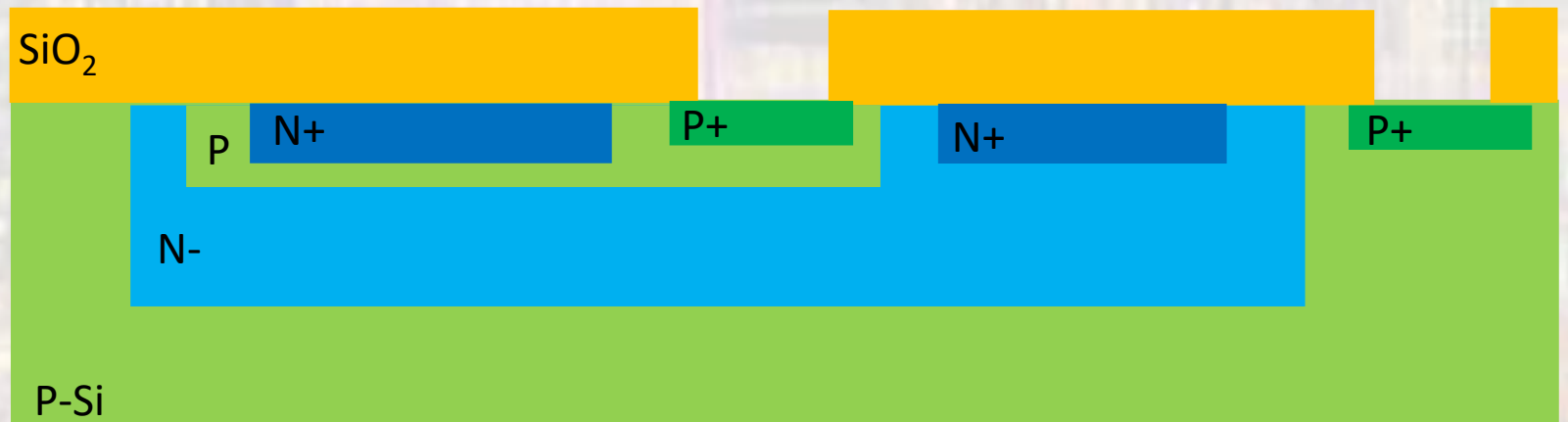
$$I_C = I_S \left[e^{\frac{qV_{BE}}{kT}} - 1 \right]$$

$$I_S = \frac{A_E q D_n n_i^2}{N_B W_B}$$

BJT

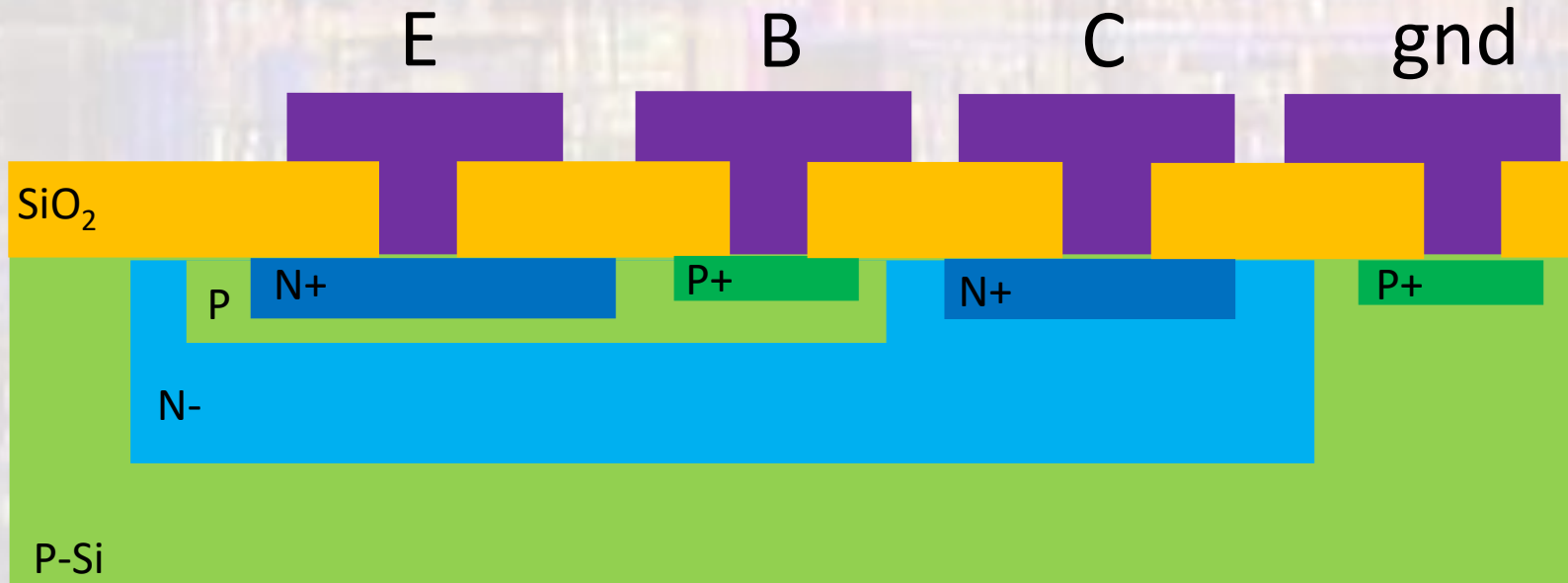


BJT



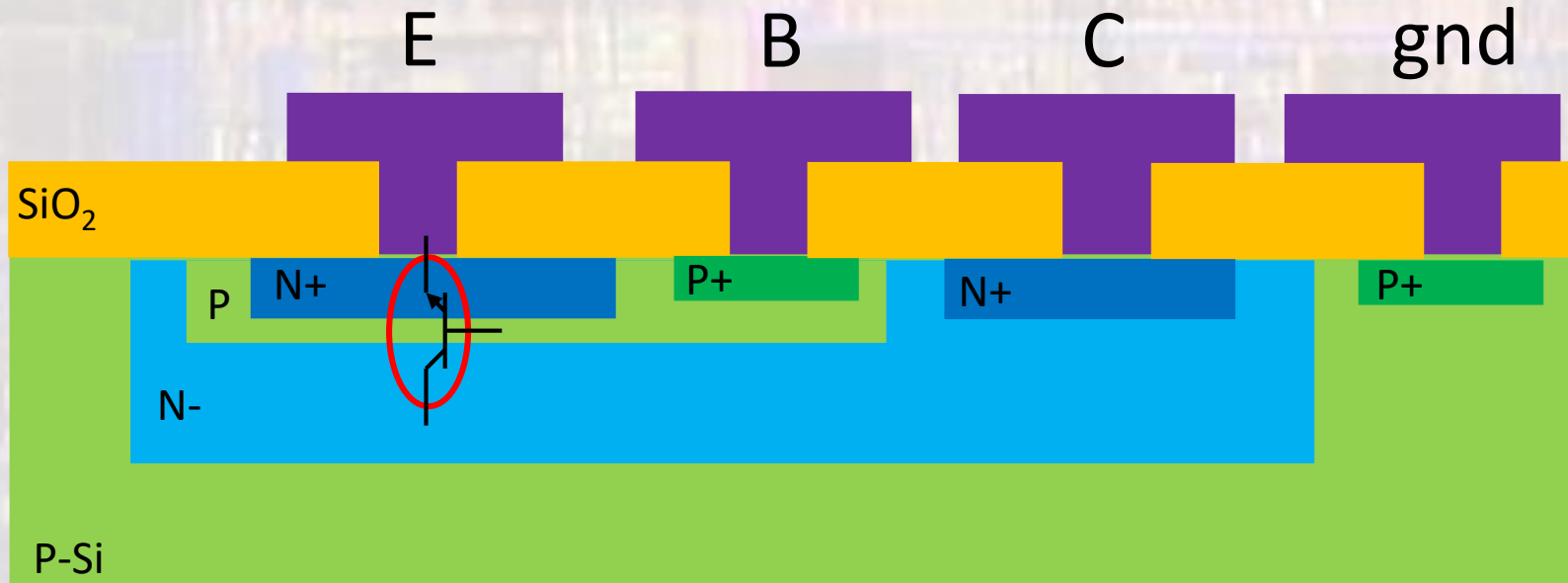
BJT

- NPN



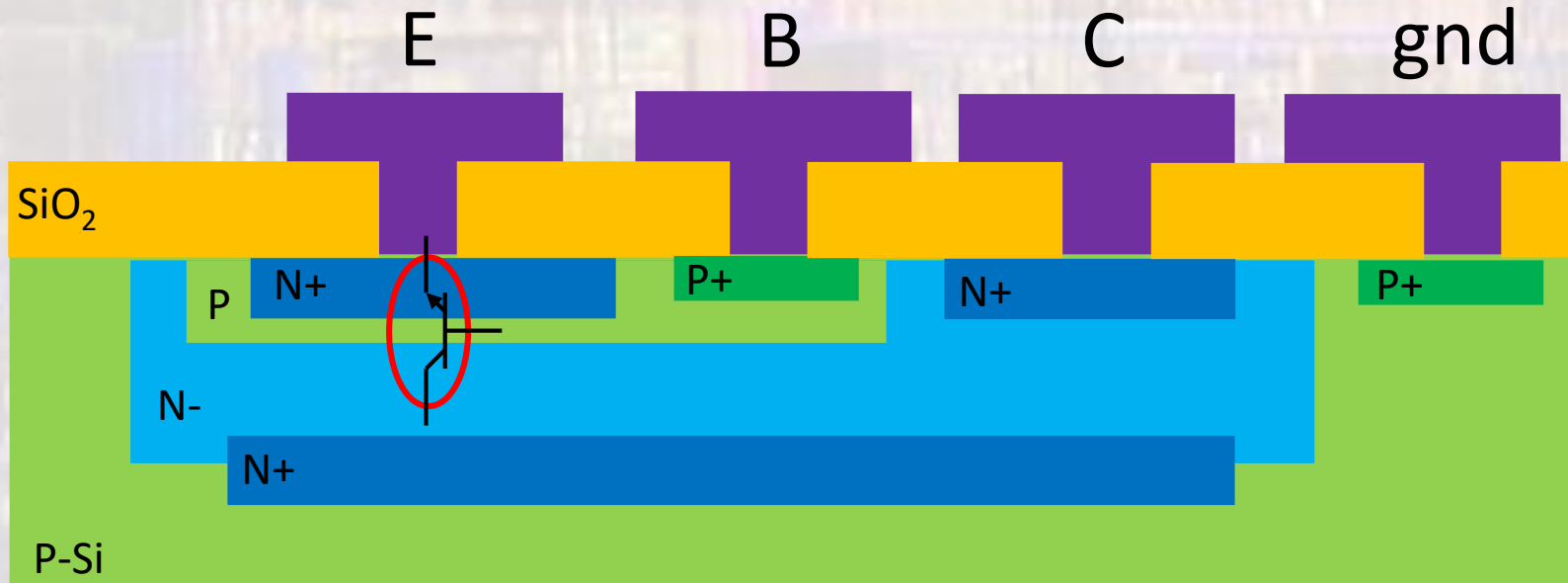
BJT

- NPN



BJT

- NPN



BJT

- PNP

