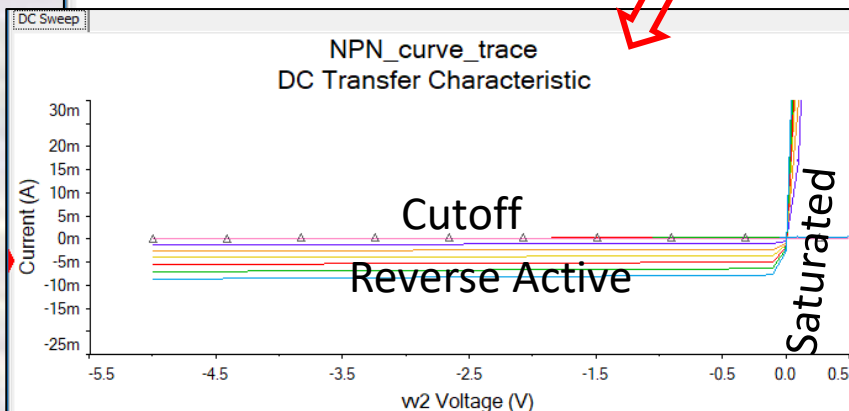
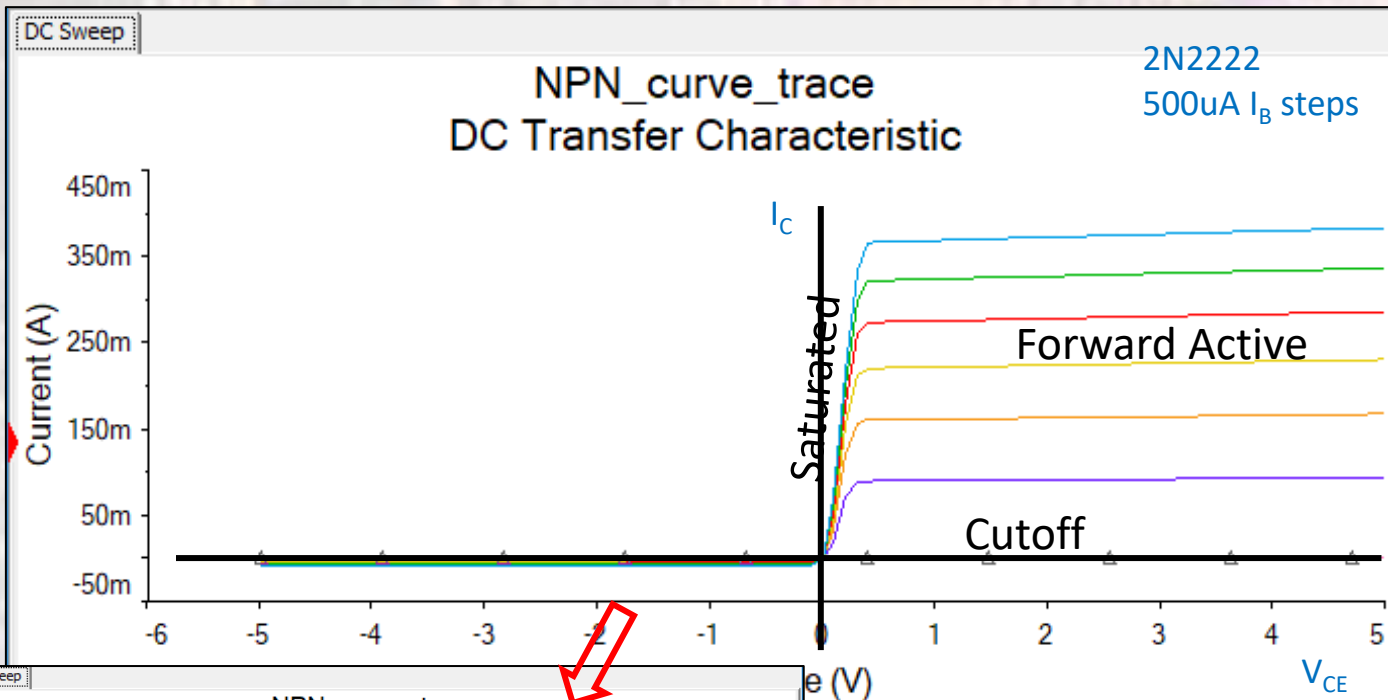


BJT Models

Last updated 3/1/22

BJT Models

- BJT I-V behavior

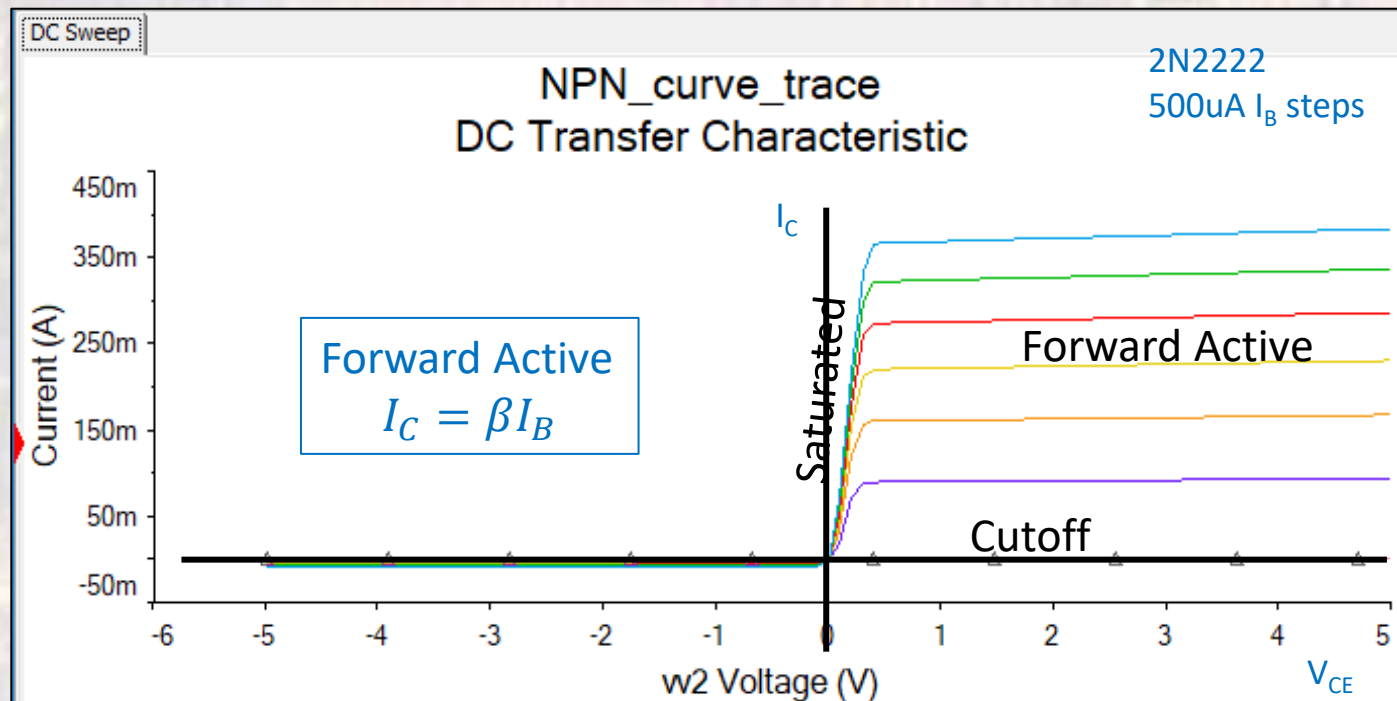


$$I_C = \beta I_B$$

Note: not exact, small slope to the I_C vs V_{CE} curve
Note: not constant for large I_C

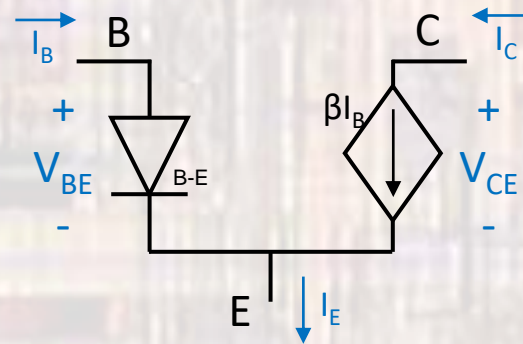
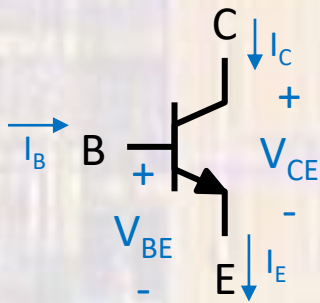
BJT Models

- BJT I-V behavior
 - Focus on Forward Active operation
 - Reverse active is the same but with a different β



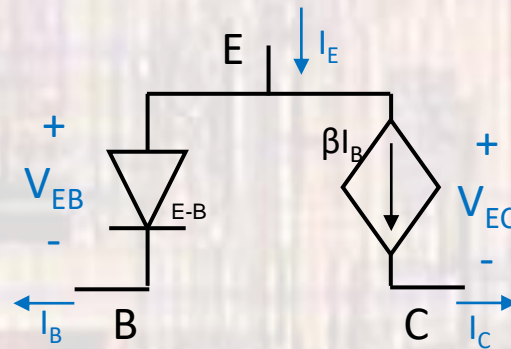
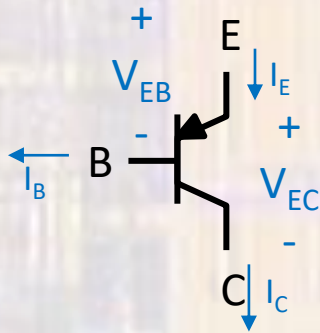
BJT Models

- DC Model – Forward Active - NPN



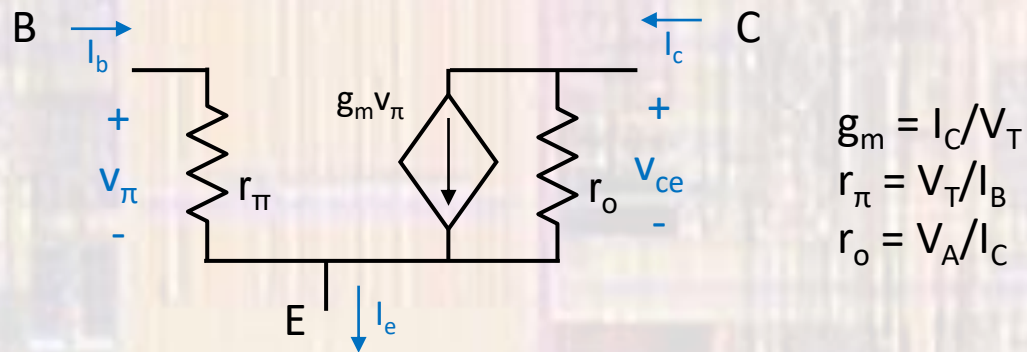
BJT Models

- DC Model – Forward Active - PNP



BJT Models

- Small Signal Model – low frequency (NPN)



BJT Models

- Small Signal Model – mid/high frequency(NPN)

