Intro to the MOSFET and digital electronics.

MOSFET = Metal Oxide Semiconductor Field Effect Transistor

• New device, transistor

MOSFET

\[ V_D = V_{GS} - V_T \]

\[ V_D = 0 \]

I_D = 0

• thoughtful question: why is the characteristic a broken curve?

V_D = V_G - V_T

• How many curved curves should there be?

- Finally, we use I_D and \( V_{DS} \)

\[ I_D = \frac{V_{DS}}{R} \]

\[ V_{GS} = V_T \]

[see notes]

\[ V_{GS} > V_T \]

[see notes]

- Behavior

\[ V_D = 0 \]

\[ V_D > V_T \]

\[ V_D < V_T \]

First MOSFET called N-MOS (N-channel enhancement)

Second MOSFET called P-MOS (P-channel enhancement)

r D-P = n channel