

# Power Mosfet

Power MOSFETs (Metal Oxide Semiconductor Field Effect Transistor) are the most commonly used power devices due to their low gate drive power, fast switching speed and superior paralleling capability. Most power MOSFETs feature a vertical structure with Source and Drain on opposite sides of the wafer in order to support higher current and voltage.

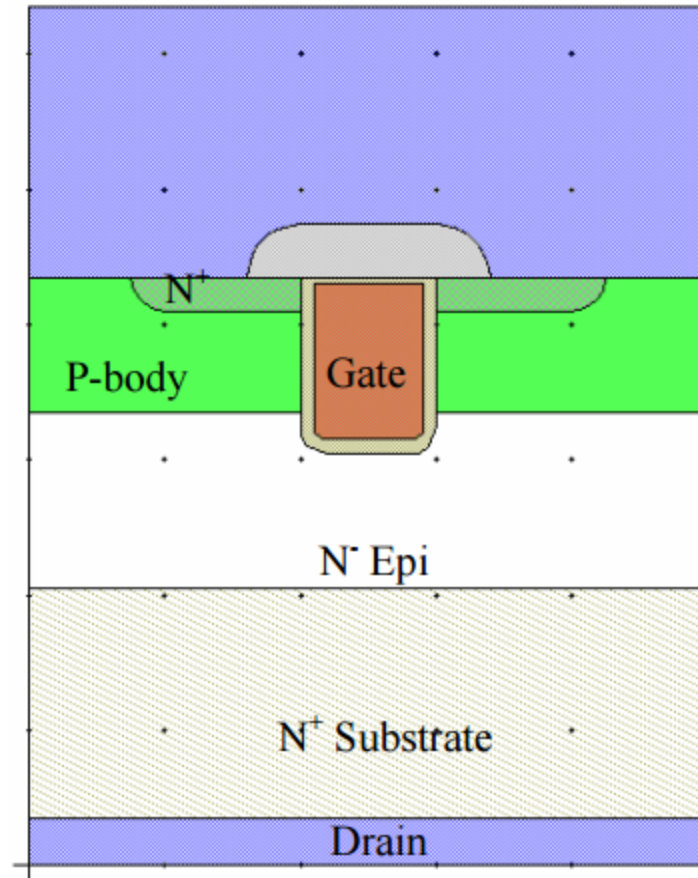


Fig.-Structure of Power MOSFET

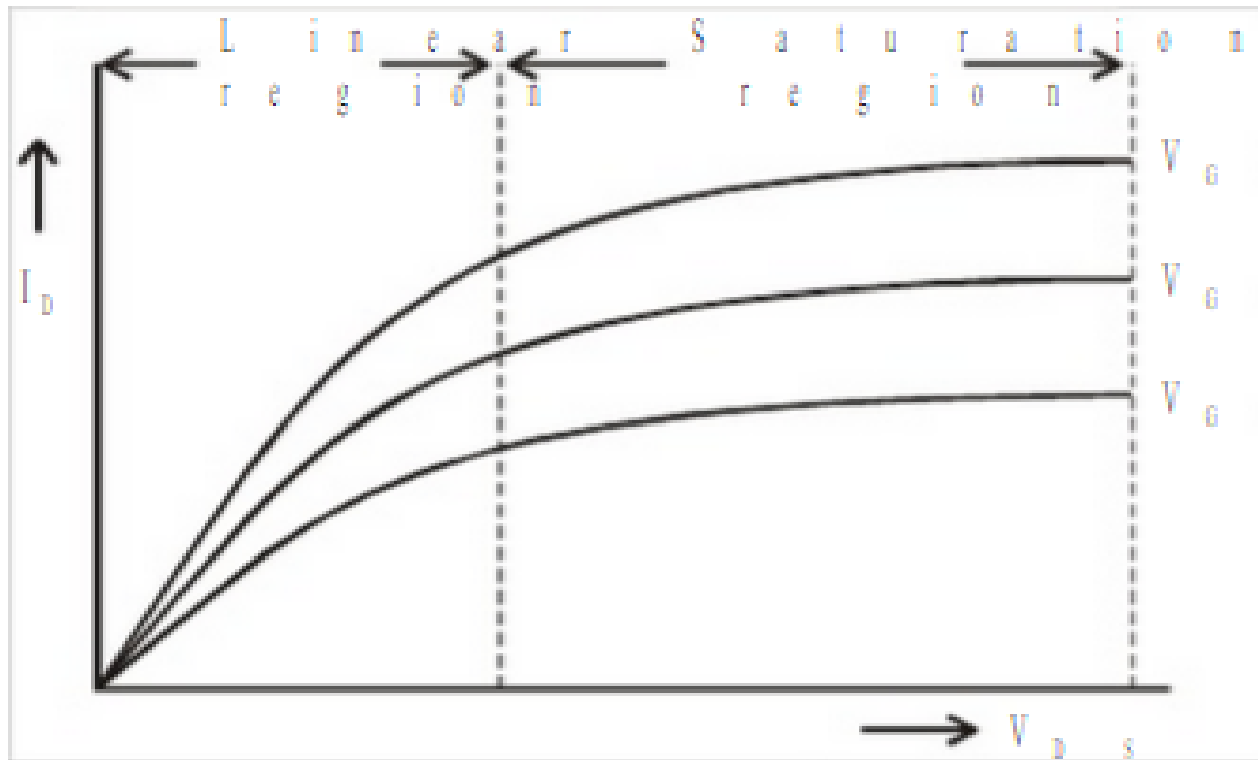


Fig.: Drain Characteristic

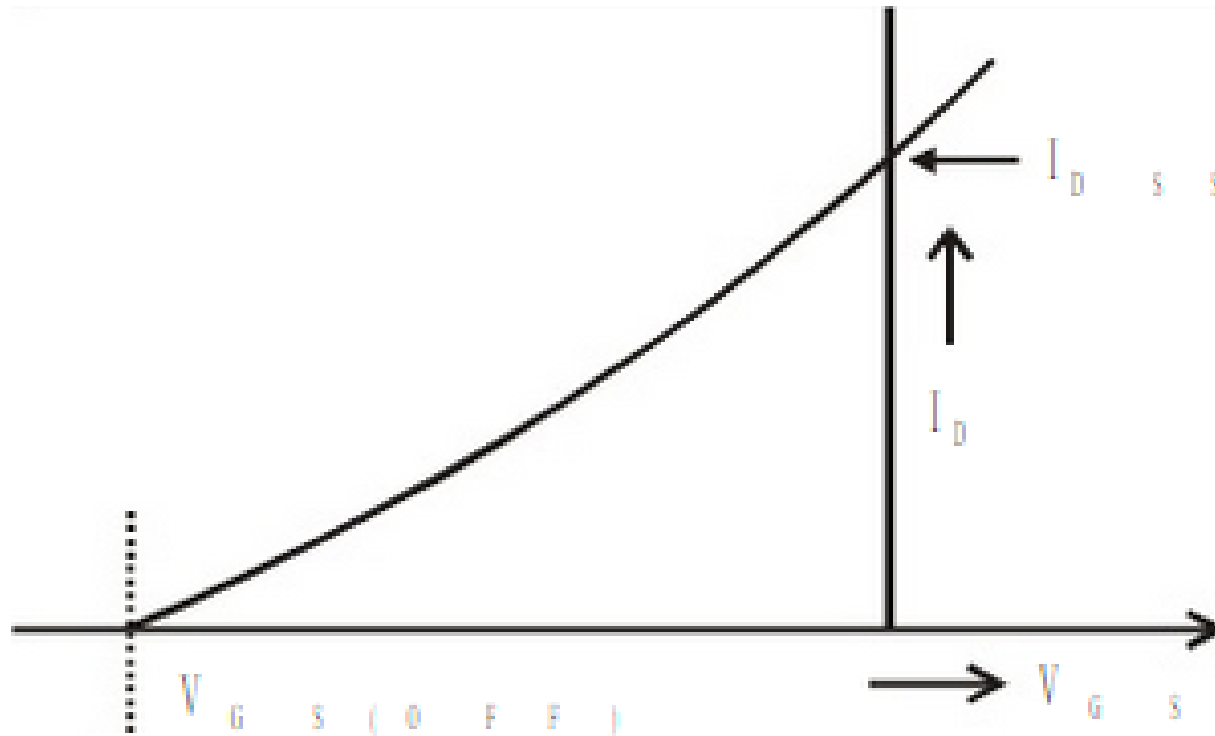


Fig.: Transfer characteristic

## Enhancement MOSFET

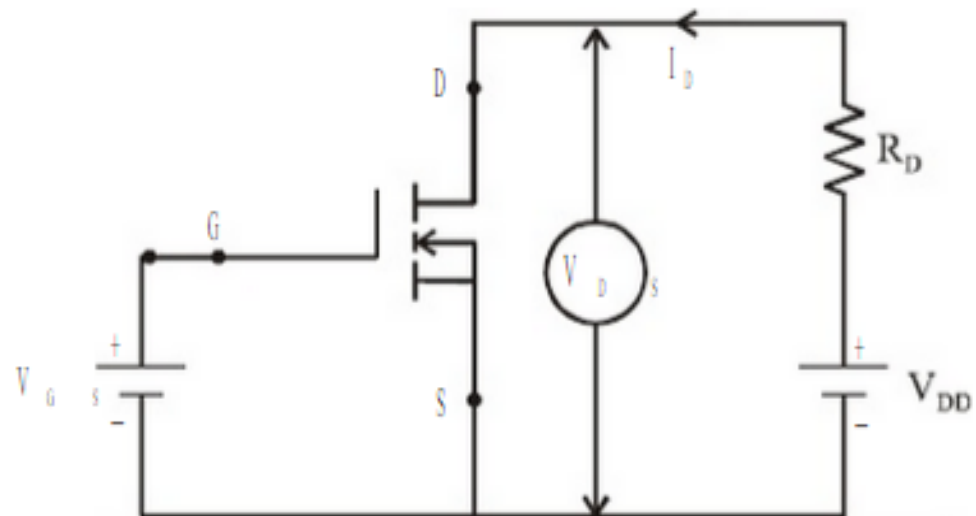
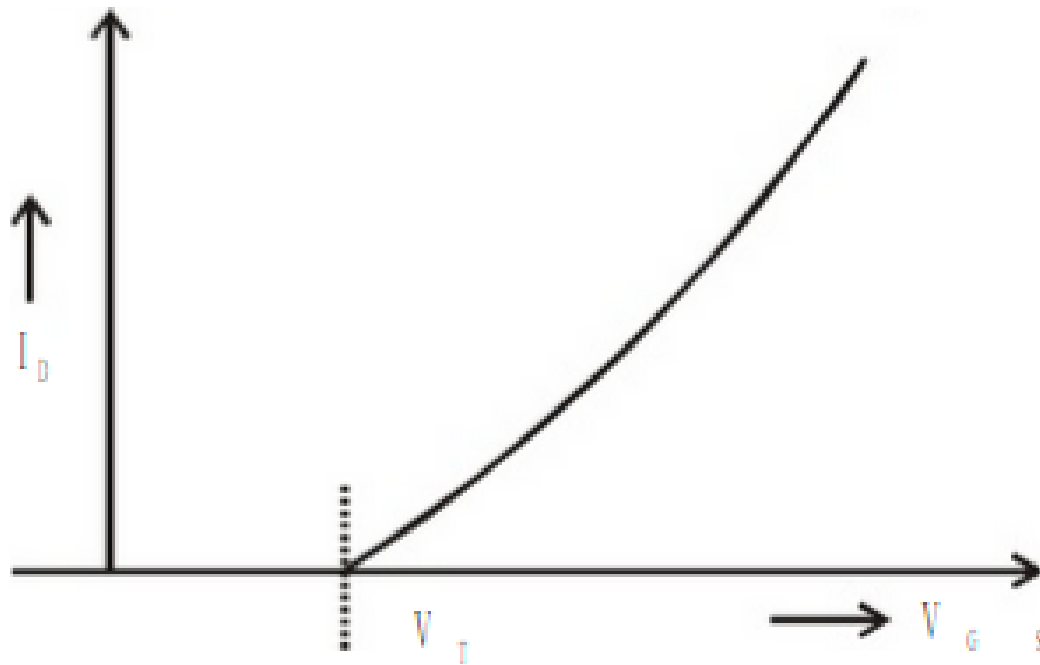
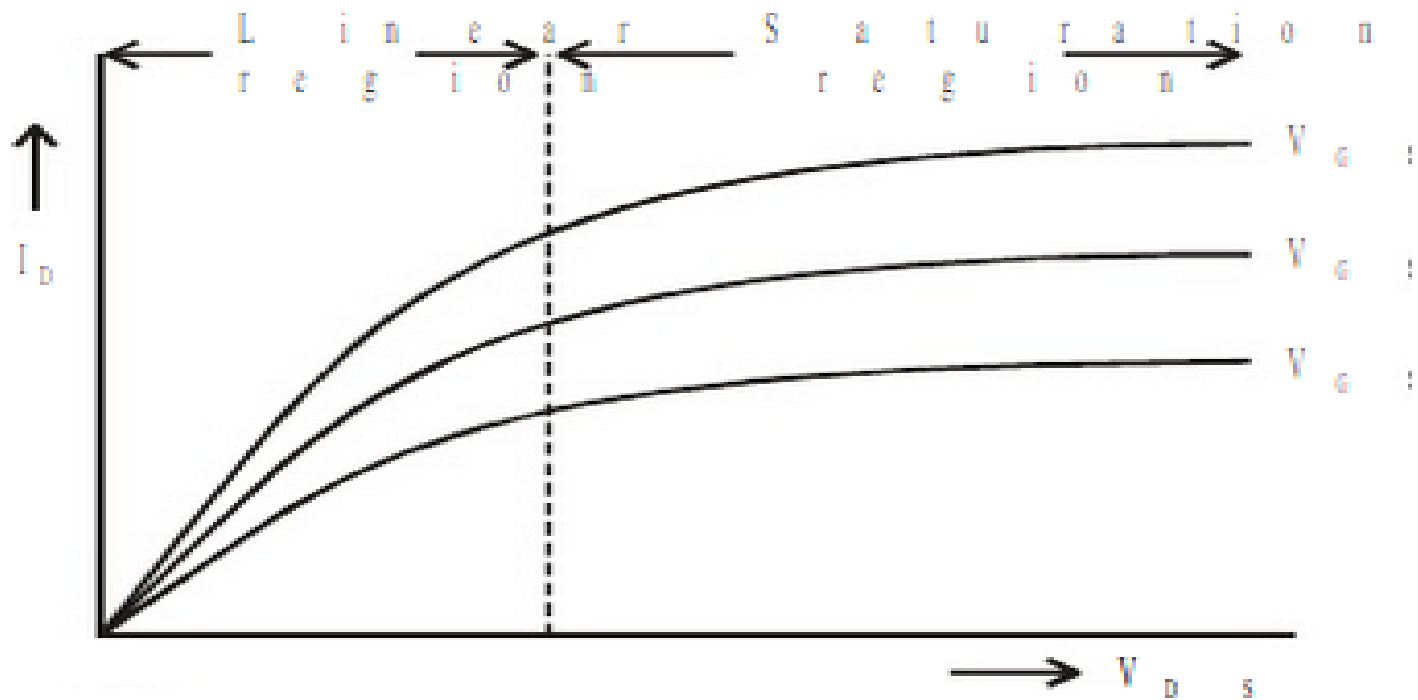


Fig: n-channel Enhancement MOSFET



$$V_T = V_{GS(TH)} = \text{Gate Source Threshold Voltage}$$

Fig.: Transfer Characteristic



$$V_{GS3} > V_{GS2} > V_{GS1}$$

Fig. : Drain Characteristic