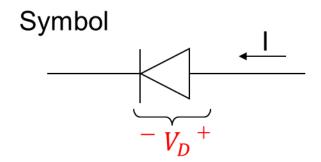
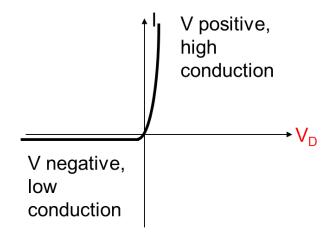
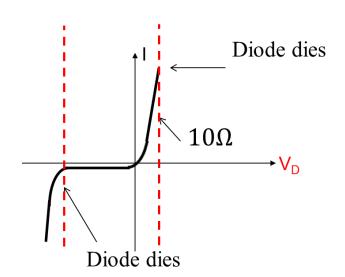
### **Diode Handout:**



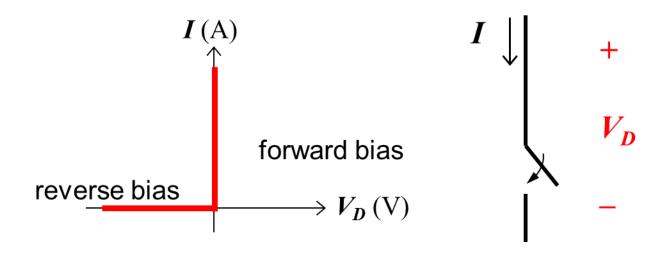
### **Zoomed In I-V Characteristic of diode:**

### **Zoomed Out I-V Characteristic of Diode**





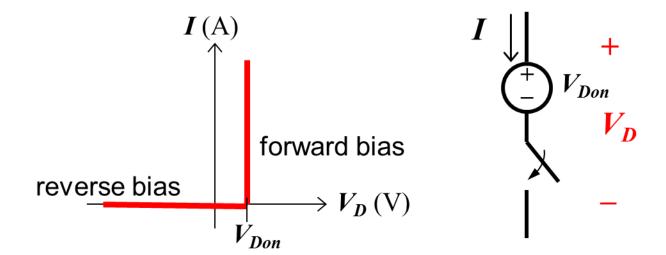
## Ideal Diode a.k.a. Switch Model:



 $\underline{ON}$ : When  $I_D > 0$ ,  $V_D = 0$ 

 $\underline{\mathsf{OFF}} \colon \mathsf{When} \ V_{\mathit{D}} < V_{\mathit{Don}}, \ I_{\mathit{D}} = 0$ 

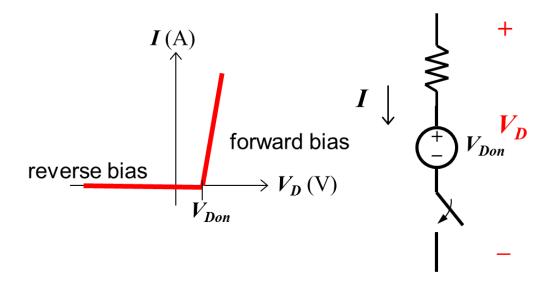
# **Voltage Source Diode Model:**



 $\underline{ON}$ : When  $I_D > 0$ ,  $V_D = V_{Don}$ 

 $\underline{\mathsf{OFF}} \colon \mathsf{When} \ V_D < V_{Don}, \ I_D = 0$ 

### **Piecewise Linear Diode Model:**



<u>ON</u>: When  $V_D \ge V_{D_{on}}$ , then  $I_D = (V_D - V_{D_{on}})/R_{on}$ 

 $\underline{\mathsf{OFF}}$ : When  $V_D < V_{Don}$ ,  $I_D = 0$