

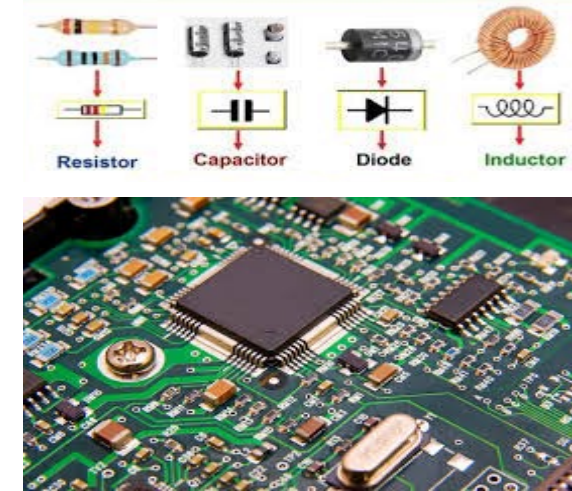


# Electronics 1

BSC 113

Fall 2022-2023

Lecture 11



# DIODE AND ITS APPLICATIONS

**INSTRUCTOR**

DR / AYMAN SOLIMAN

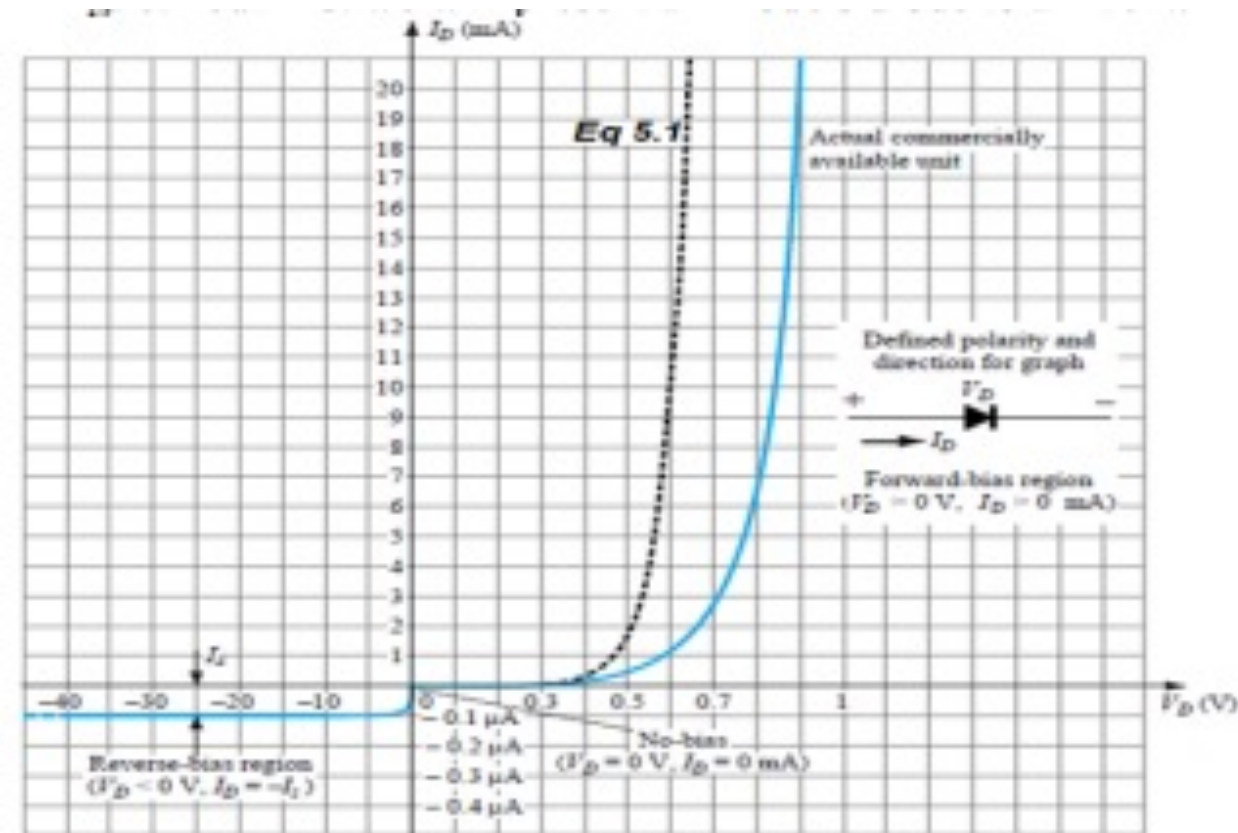
## ➤ Contents

- 1) Introduction to diode
- 2) models of diode

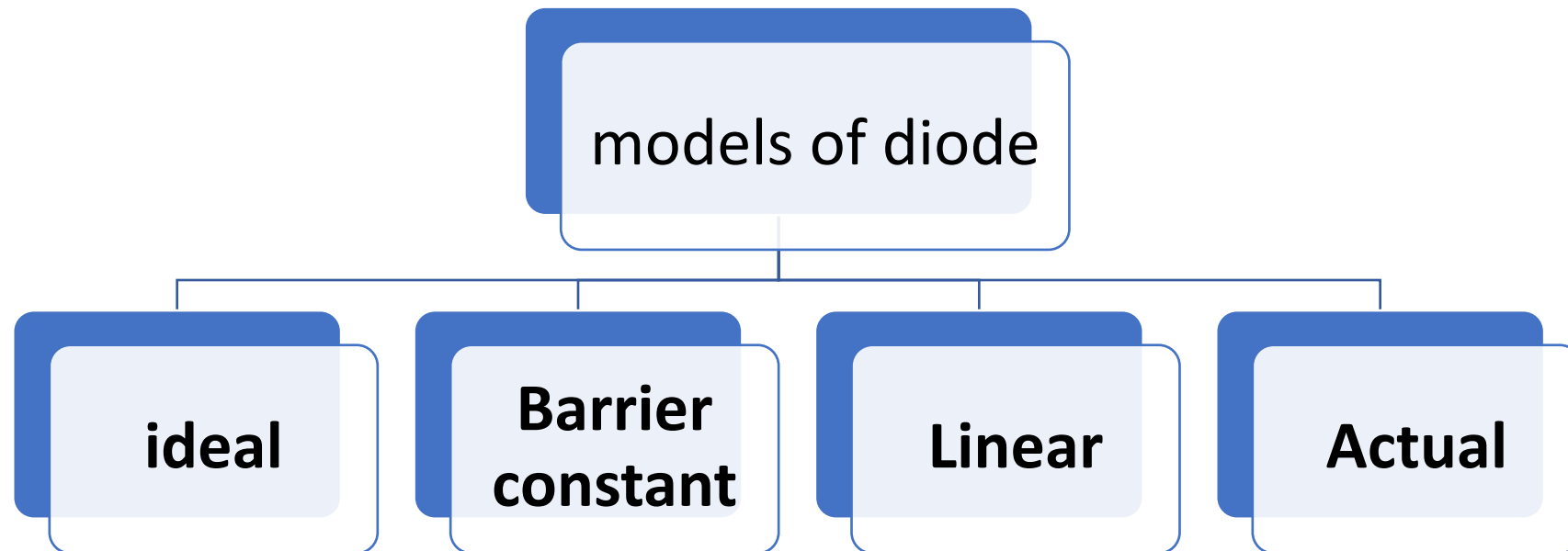


## □ Introduction to diode

- We can show the characteristics curve for diode can be presented as shown in Fig. but first we will present all models diode to arrive it.

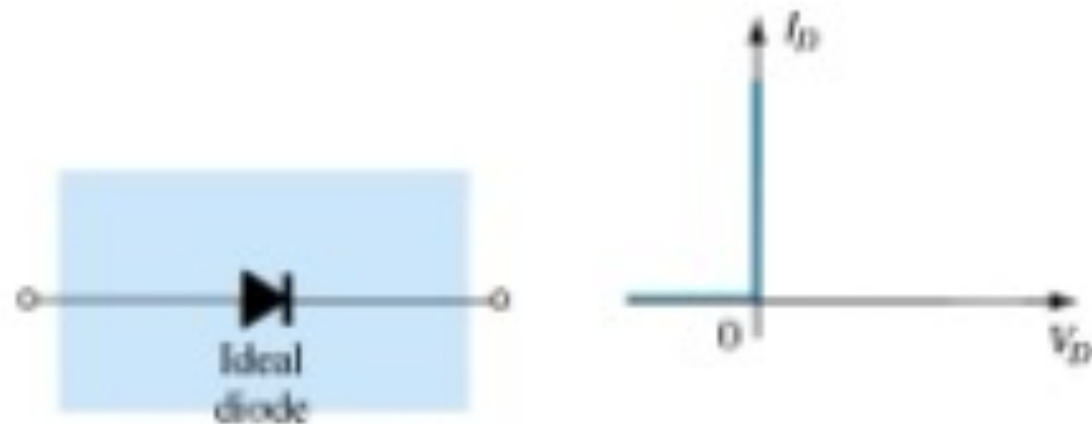


## ☐ models of diode



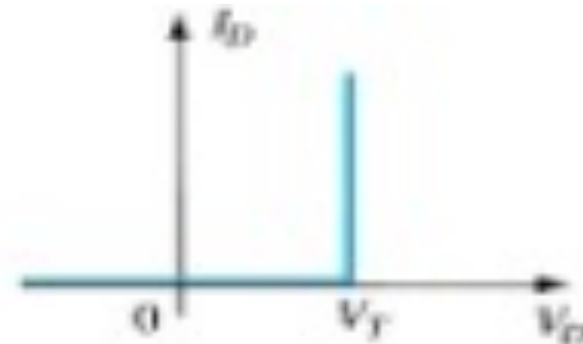
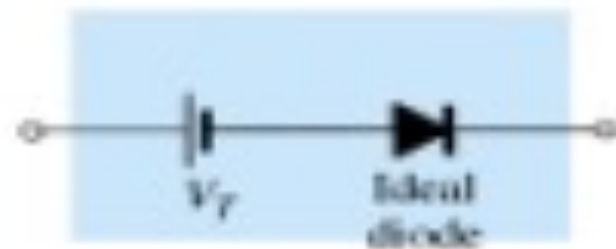
## □ 1. ideal model

- As shown in Fig., this model makes diode as short circuit when is connected as F.B and open circuit when connected at R.B.



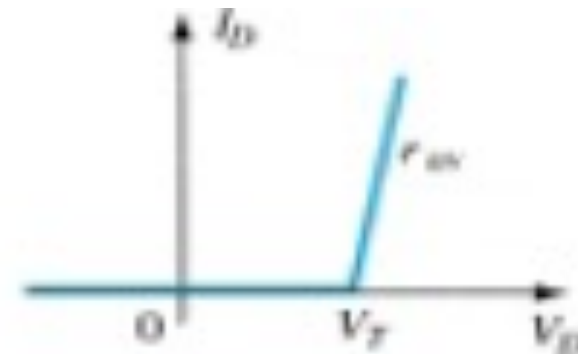
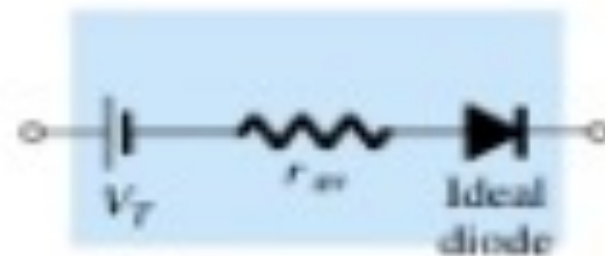
## □ 2. Barrier constant model

- As shown in Fig., this model make diode as Battery when is connected as F.B and open circuit when connected at R.B.



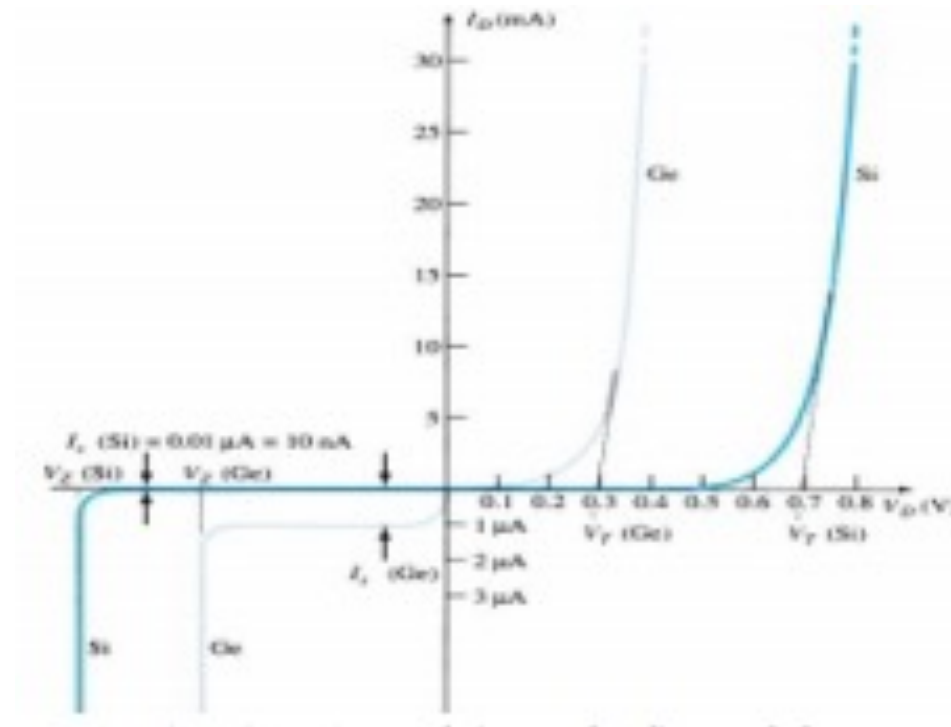
### □ 3. Linear model

- As shown in Fig., this model make diode as battery with resistor when is connected as F.B and open circuit when connected at R.B.



## □ 4. Actual model

- As shown in Fig., this model make diode as battery with resistor when is connected as F.B and high resistor when connected at R.B.





# Applications of diode

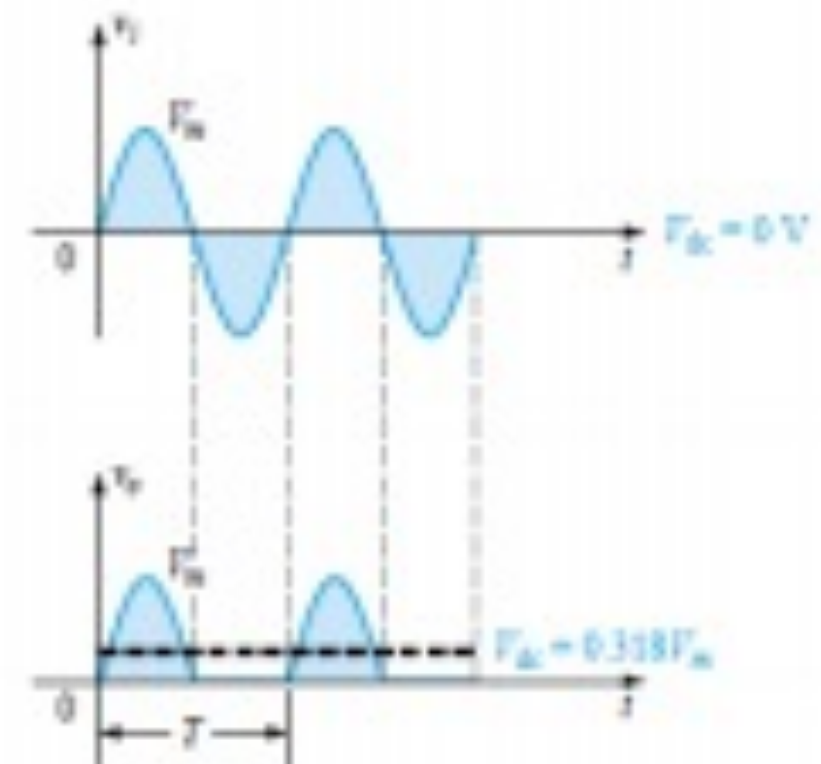
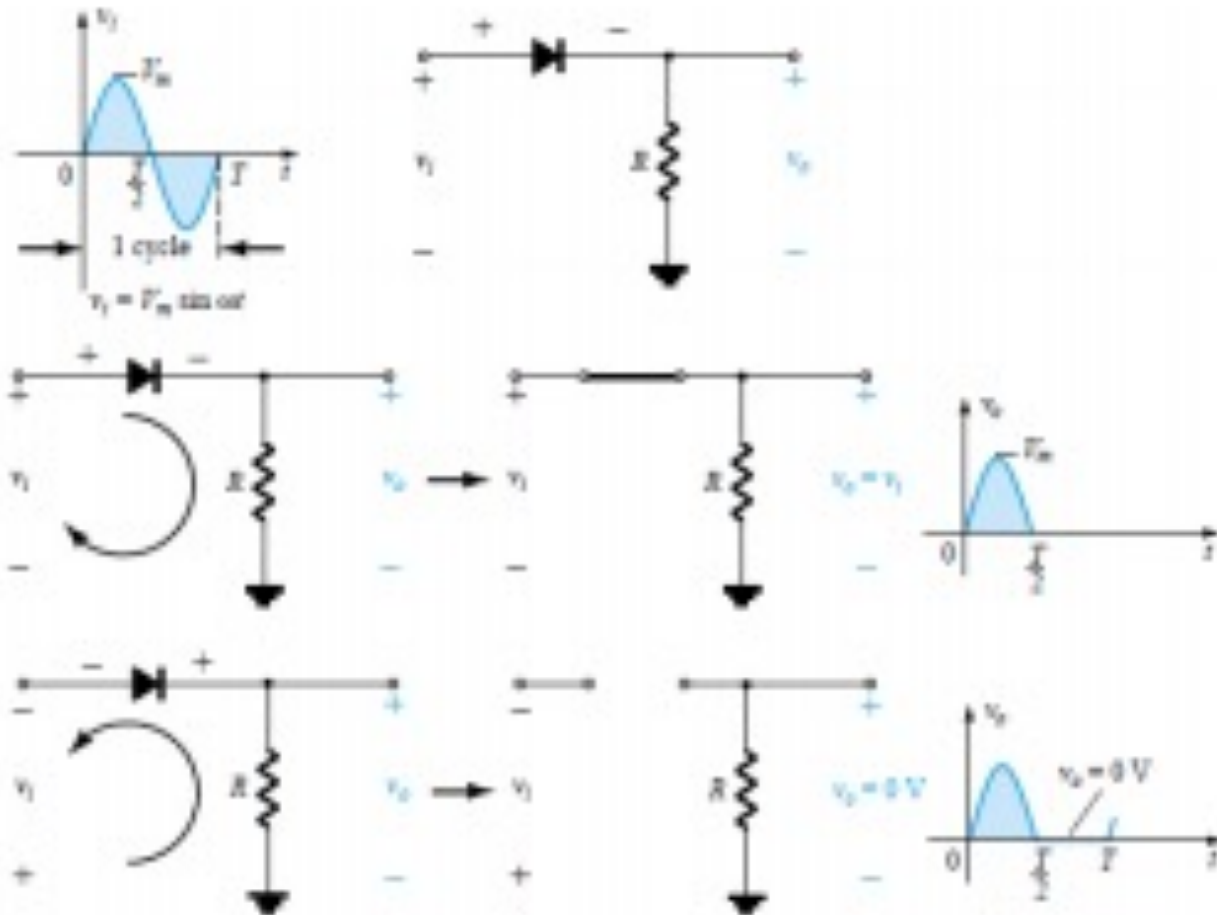
Half wave rectifier

Full wave rectifier

Center-Tapped  
transformer

Bridge FWR

# □ Half wave rectifier (HWR)



*Thank  
you*

