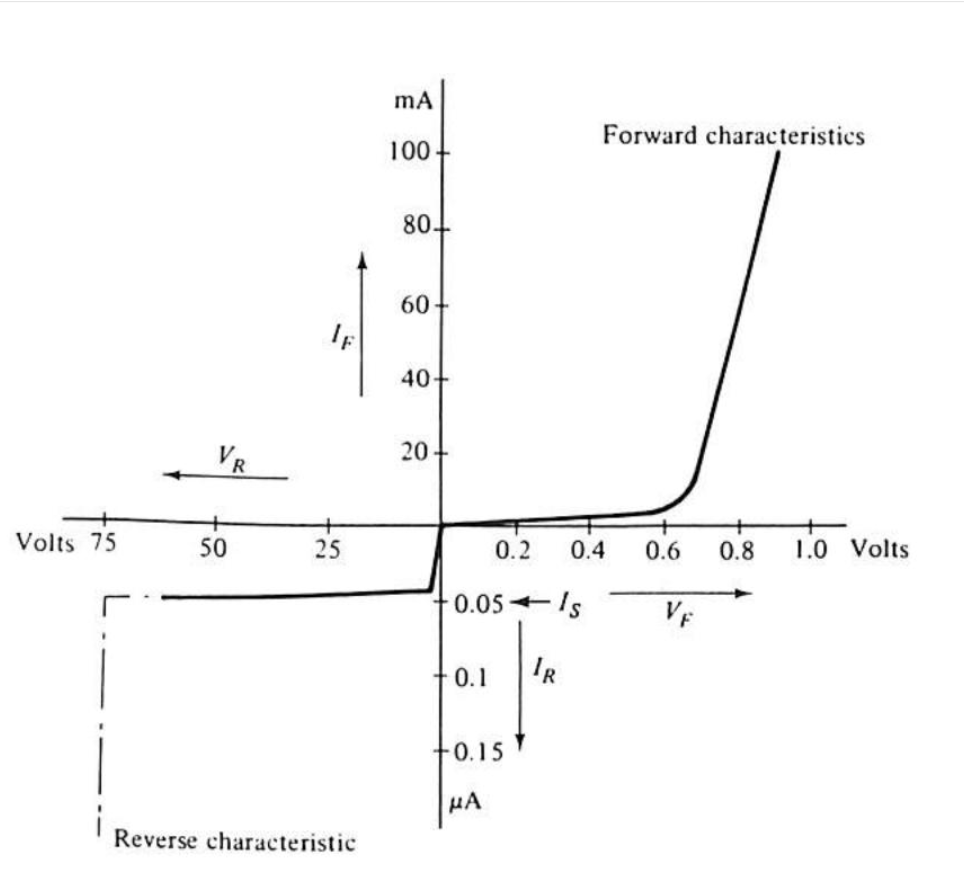
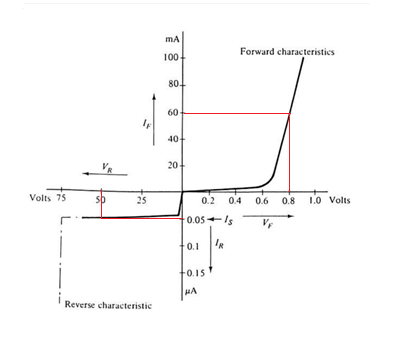
Diode Typical Characteristics:

* Forward bias voltage () = 0.7V (silicon) 0.3V(germanium)
* Forward current ()
* Diode power () =
* Max forward current
* Reverse voltage (
* Reverse current () “The reverse current is at first equal to ; then it falls off to the reverse leakage current level,” (Bell p.79)
* Reverse leakage current (
* Reverse breakdown voltage (
* Reverse recovery time (

“The reverse recovery time is the time required for the reverse current to fall to .” (Bell p.75)

“The speed with which a diode can be switched is determined by the reverse recovery time of the device.”(Bell p.76)

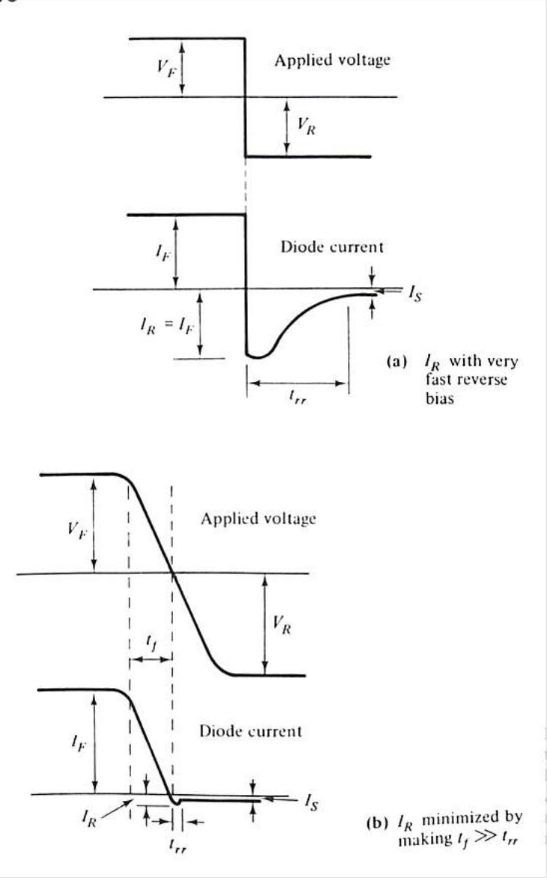


Diode **Static** Resistance:

* Notice when the diode is forward biased at
  + We can now solve for the Diode Static Resistance when .
  + How about solving the Diode Static Resistance when the diode is reverse biased at
  + This shows us that the Diode is acting like a switch.

Diode **Dynamic** Resistance:

* Very similar to Transistors, as AC voltages are applied to diodes they exhibit a dynamic resistance that can be calculated using the below formula.



and Frequency Response.

* Practical Design considerations for switching diodes. The impact of the diode’s recovery time can affect the circuits high frequency response. In order to negate the impact of the diodes , a diode with a recovery time that is ten times less than the desired Rise Time or Fall Time should be used.

  + )