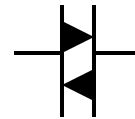


LECTURE 8

Triggering Devices

- Used to pulse switching devices
- Diac
 - 3-layer
 - Bi-directional conduction
 - Breakover voltage
 - Blocking region

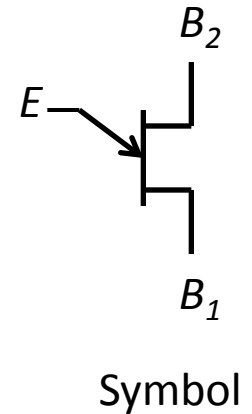
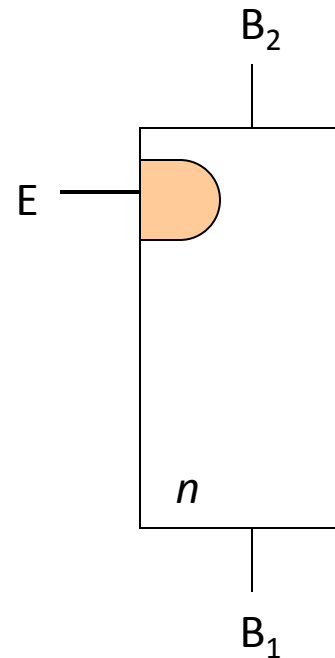
Symbols



Triggering Devices

- Unijunction Transistor (UJT)
 - 3-terminal device
 - Intrinsic standoff ratio

$$\eta = \frac{R_{B1}}{R_{B1} + R_{B2}} = \frac{R_{B1}}{R_{BB}}$$



Triggering Devices

- UJT
 - $0.5 < \eta < 0.9$
 - Emitter region heavily doped
 - $V_E - B_1 = 0$, p - n junction reverse biased
 - Increase $V_E - B_1$, reach peak point (maximum current)

Triggering Devices

- UJT
 - Continue increase, reach valley point
 - Further increase $V_E - B_1$, UJT is saturated

Triggering Devices

- UJT relaxation oscillator

$$T = R_E C_E \ln \left(\frac{1}{1 - \eta} \right)$$

$$f = \frac{1}{T}$$

