

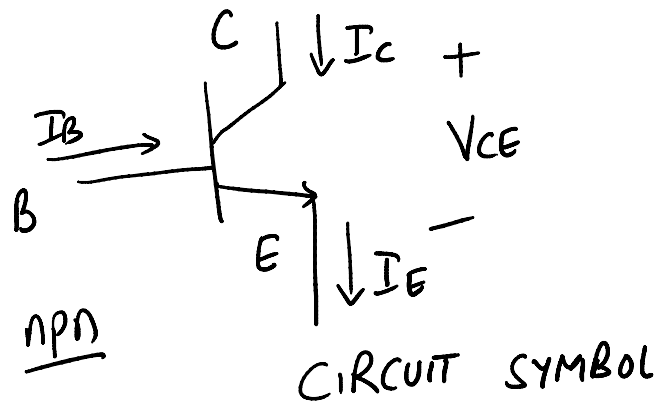
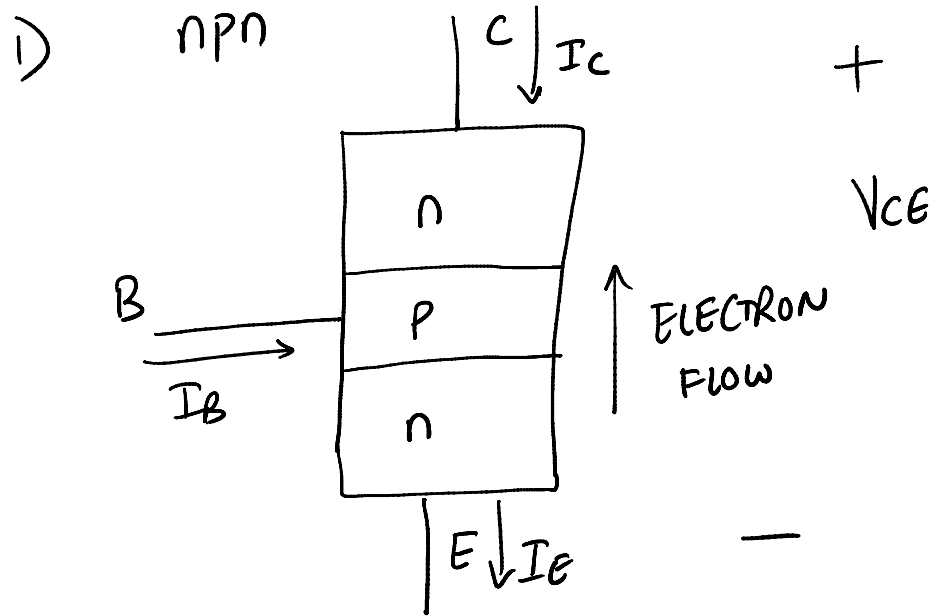
LECTURE - 22

BJT \longrightarrow 2 TYPES

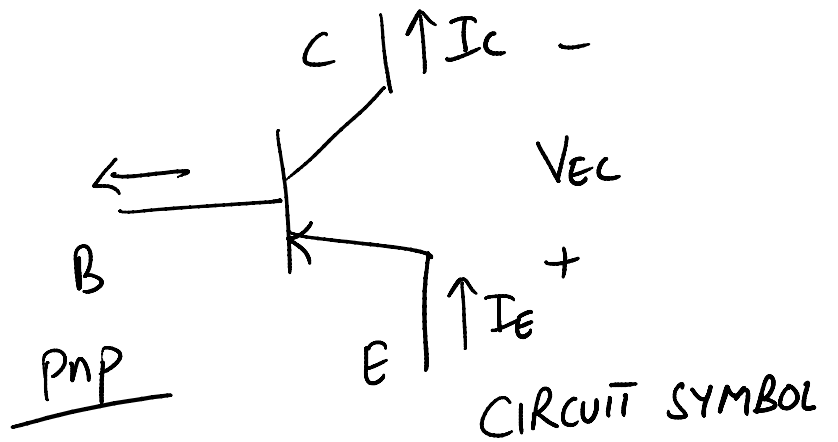
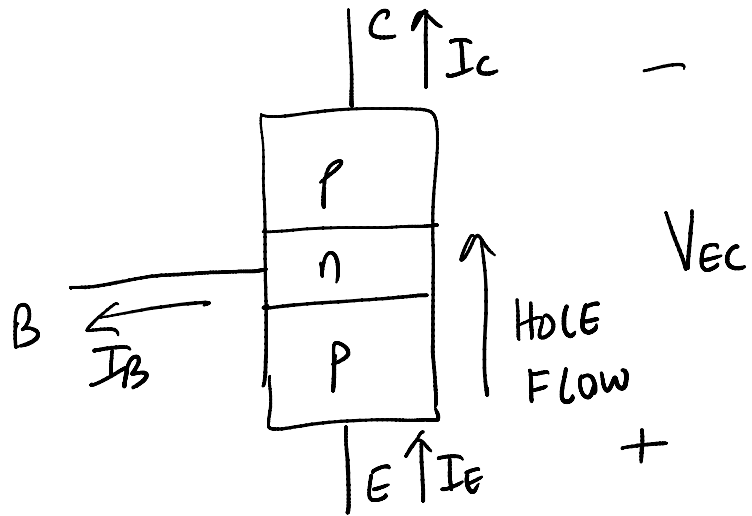
- 1) P TYPE MATERIAL BETWEEN TWO N-TYPE MATERIALS NPN
- 2) N TYPE MATERIAL BETWEEN TWO P-TYPE MATERIALS PNP

3-TERMINAL DEVICE

BASE (B)
COLLECTOR (C)
EMITTER (E)



PNP

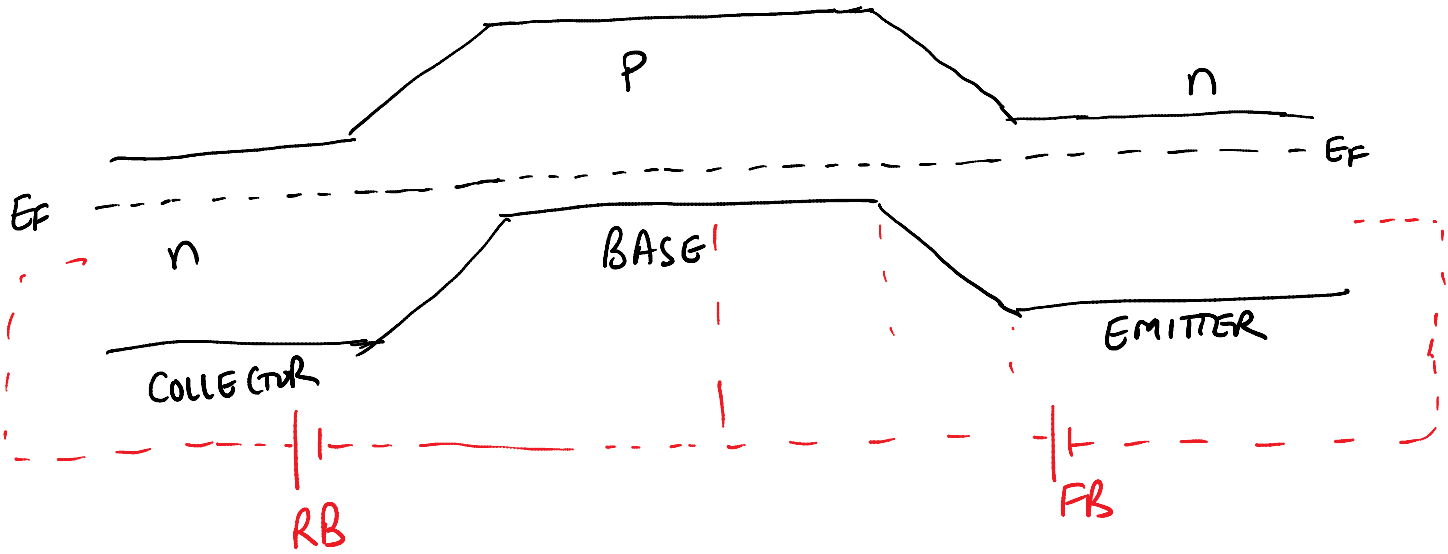
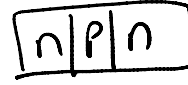


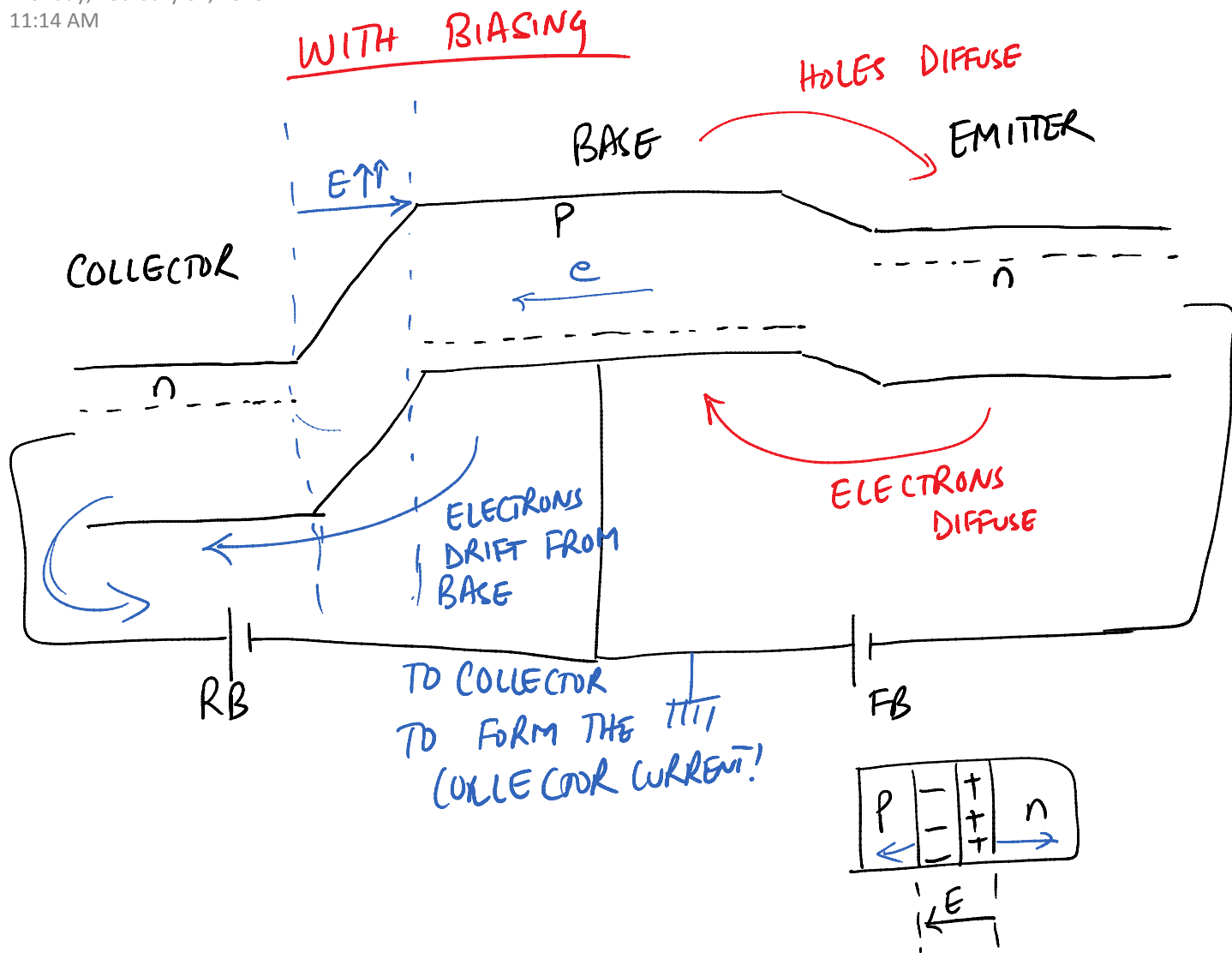
BJT OPERATING CONDITIONS

- ACTIVE
- ① BASE EMITTER JUNCTION → FORWARD BIASED
 - ② COLLECTOR BASE JUNCTION → REVERSE BIASED

Monday, February 04, 2013
11:10 AM

NPN AT EQUILIBRIUM





FB EB JUNCTION

- ① JUNCTION WIDTH NARROWES
- ② DIFFUSION CURRENT DOMINATES
- ③ HOLES INJECTED ~~TO~~ INTO EMITTER ~~EB~~ REGION
- ④ ELECTRONS INJECTED INTO BASE REGION

RB CB JUNCTION

- ① JUNCTION R WIDTH INCREASES
- ② DRIFT CURRENT DOMINATES
- ③ ELECTRONS ARE EXTRACTED FROM COLLECTOR REGION
- ④ HOLES ARE EXTRACTED FROM BASE REGION