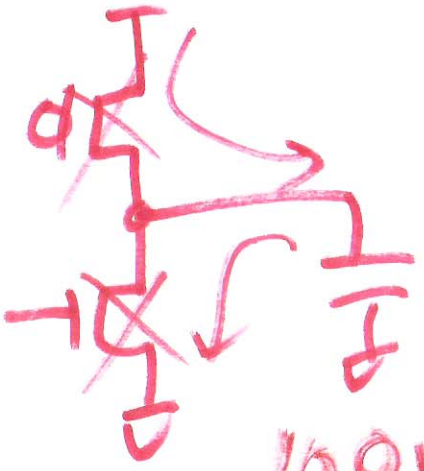
EE 422 / ECG 622

Lecture 24

4/29/13



$$I_D = \frac{K_P}{2}\frac{W}{L}\left(V_{GS} - V_{TH}\right)^2$$

$$I = C\frac{dV}{dt}$$

$$\frac{100V}{4s} = \frac{dV}{dt} = \frac{\Delta V}{\Delta t} =$$

Class AB output buffer

$$\frac{100V}{4s} = \frac{\Delta V}{\Delta t} = \frac{I_{BIAS}}{1pF}$$

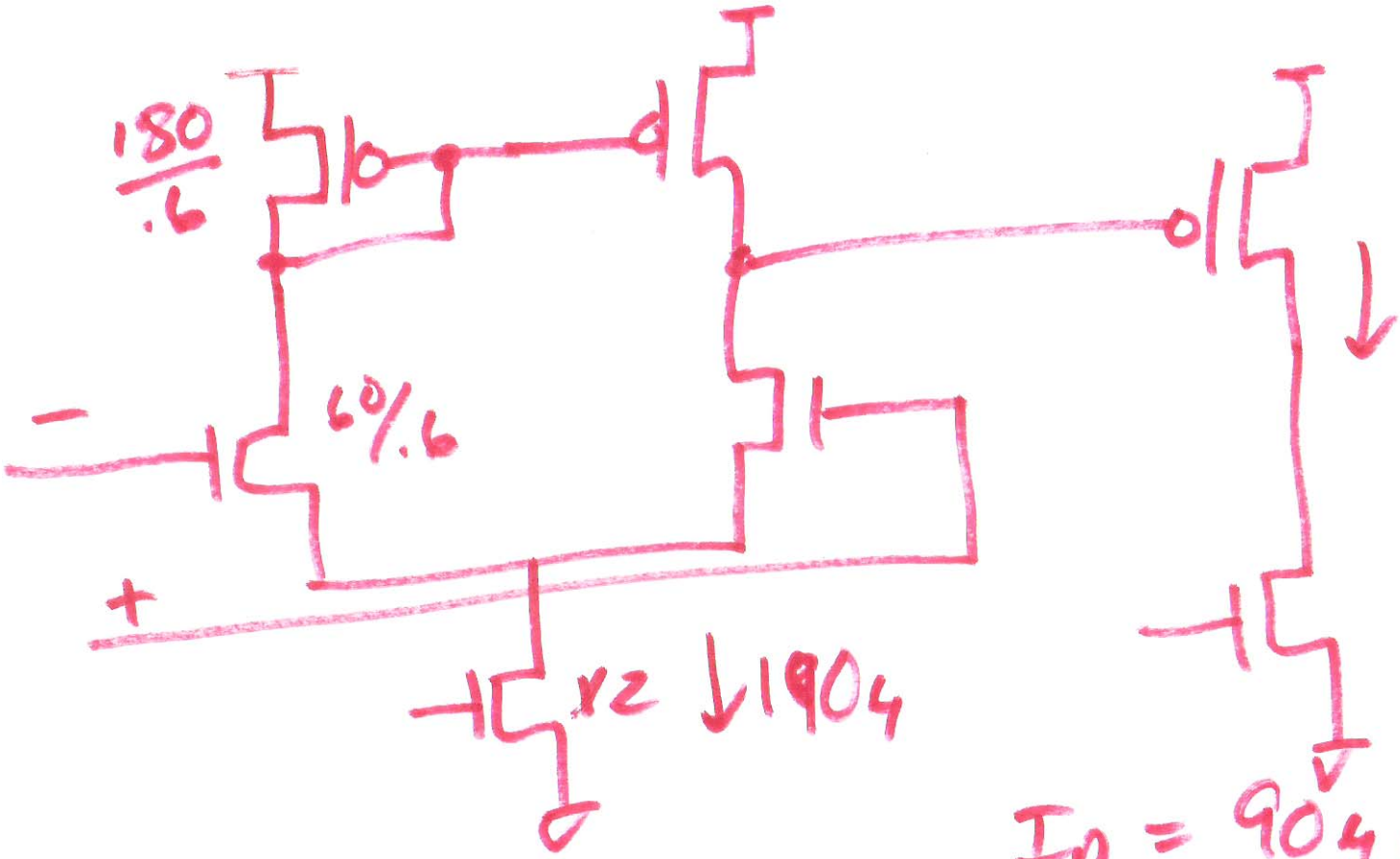
$$10^{-12} \cdot 10^{2} \cdot 10^{6} = I_{BIAS}$$

$$I_{BIAS} = 10^{-4}$$

$$= 100\mu A$$

100μA

200μA



$I_D = 90\mu A$

$V_{OV} \simeq 100mV$

$\frac{W}{L}\Big|_P = \frac{180}{.6}$

$\frac{W}{L}\Big|_N = \frac{60}{.6}$