

EE 421 / ELG 621

Digital IC Design

August 31, 2020

sheet resistance

Lecture 3

600nm

$\lambda = 300$ nm

$3\lambda \rightarrow 2\lambda \rightarrow 1.2\lambda \rightarrow \frac{1}{2}\lambda$

$\rightarrow 0.2j\lambda$

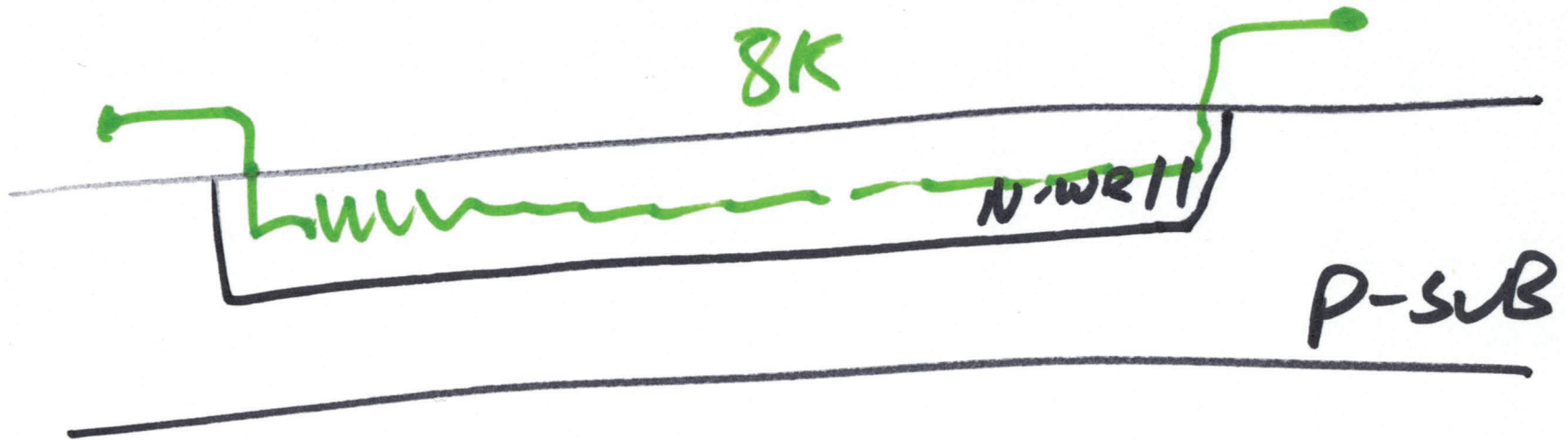
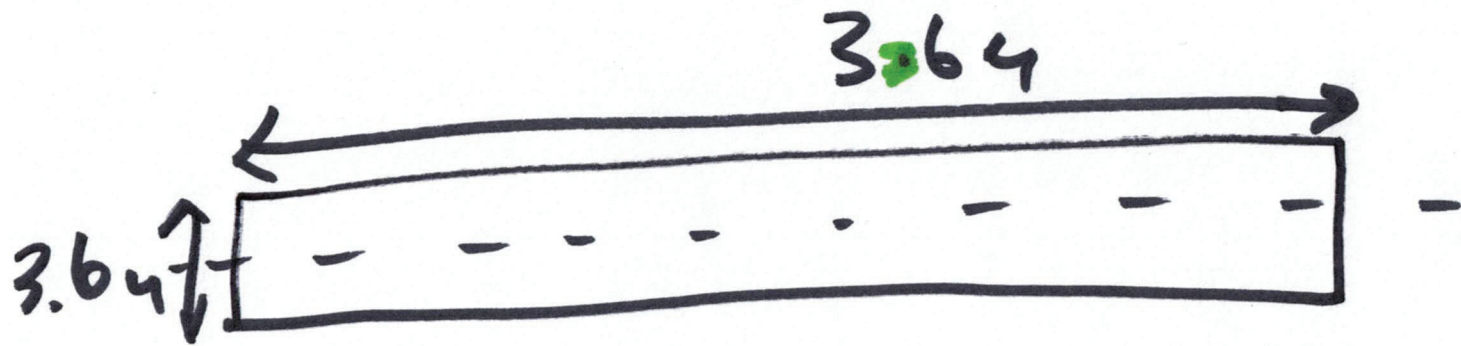
90nm

$$R = R_{\square} \cdot \frac{L}{w}$$

$$8k = 800 \cdot \frac{36\mu}{3.6\mu}$$



1)



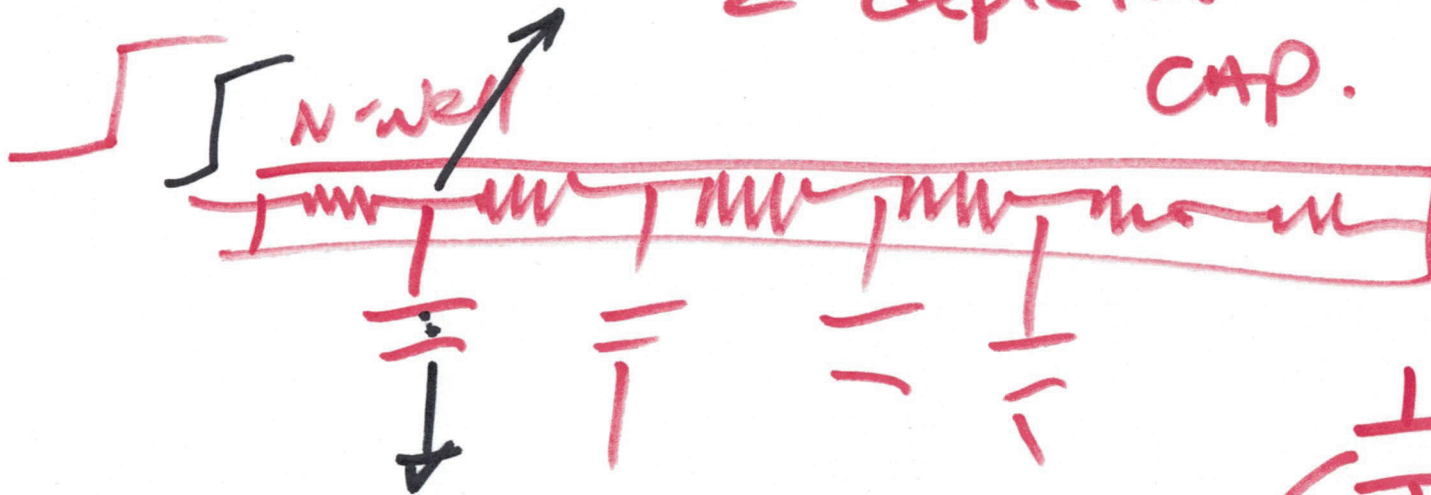
2)

Depletion CAPACITANCE

$10^{22} \sim Si$
 $10^{16} \sim P$
 N

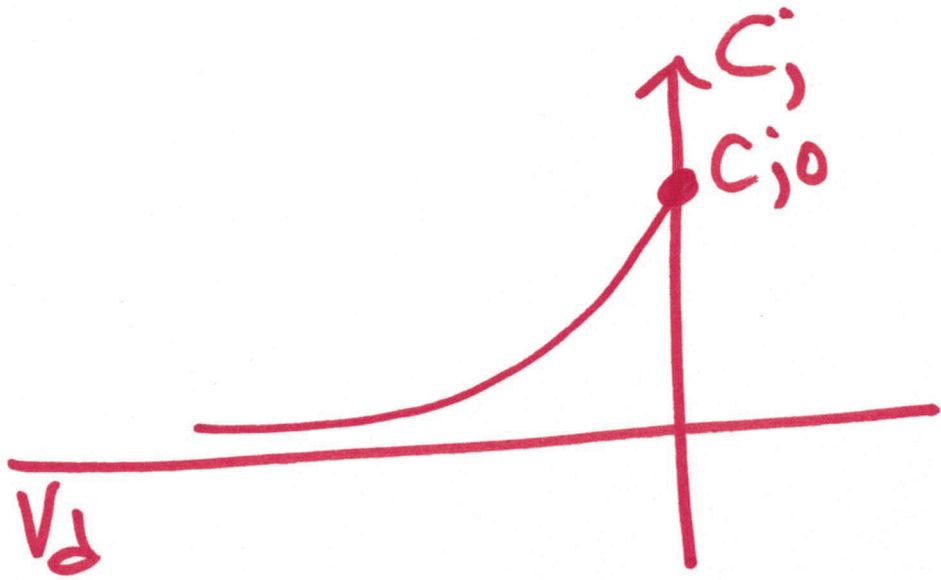
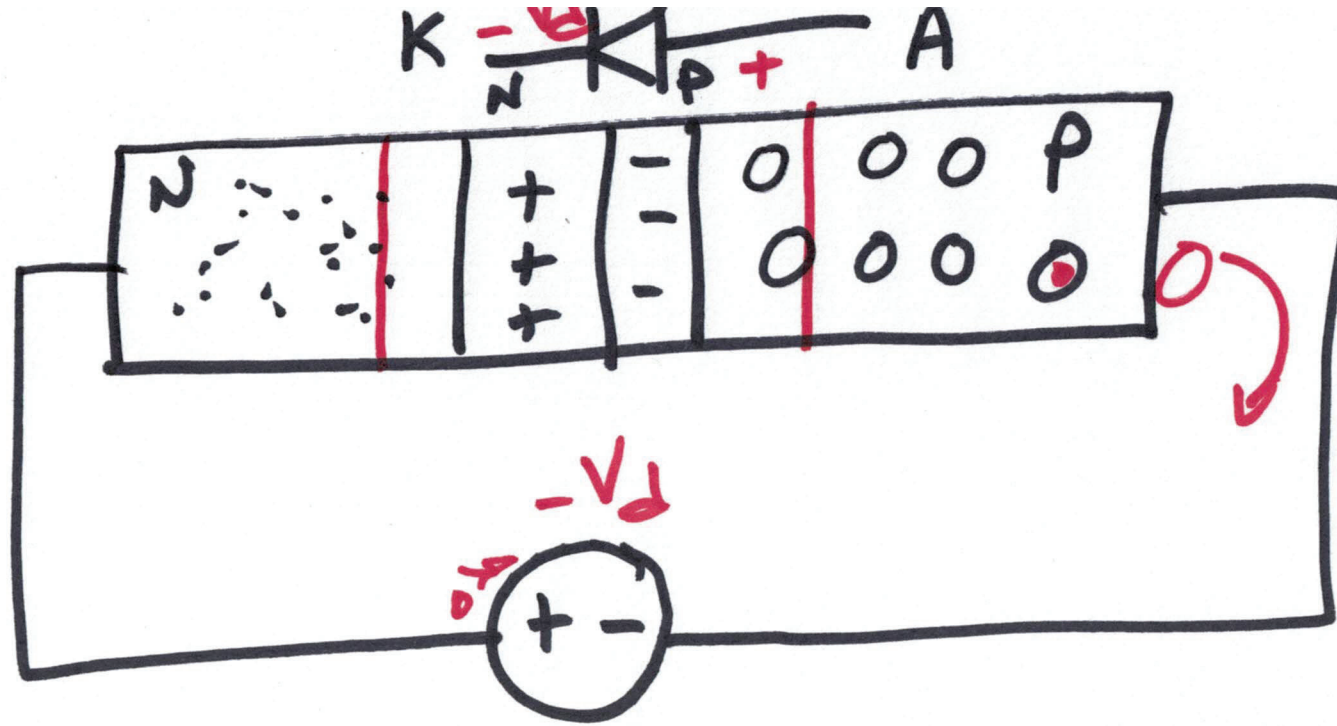


\rightarrow
 Σ depletion
 CAP.



Area
 $C = \epsilon \cdot \frac{A}{t}$

3)



4)