$T \uparrow$ Resistors $T \uparrow \mu \downarrow$

$N_i \uparrow$

$$\rho = \frac{1}{(N\mu_N + P\mu_P)q}$$

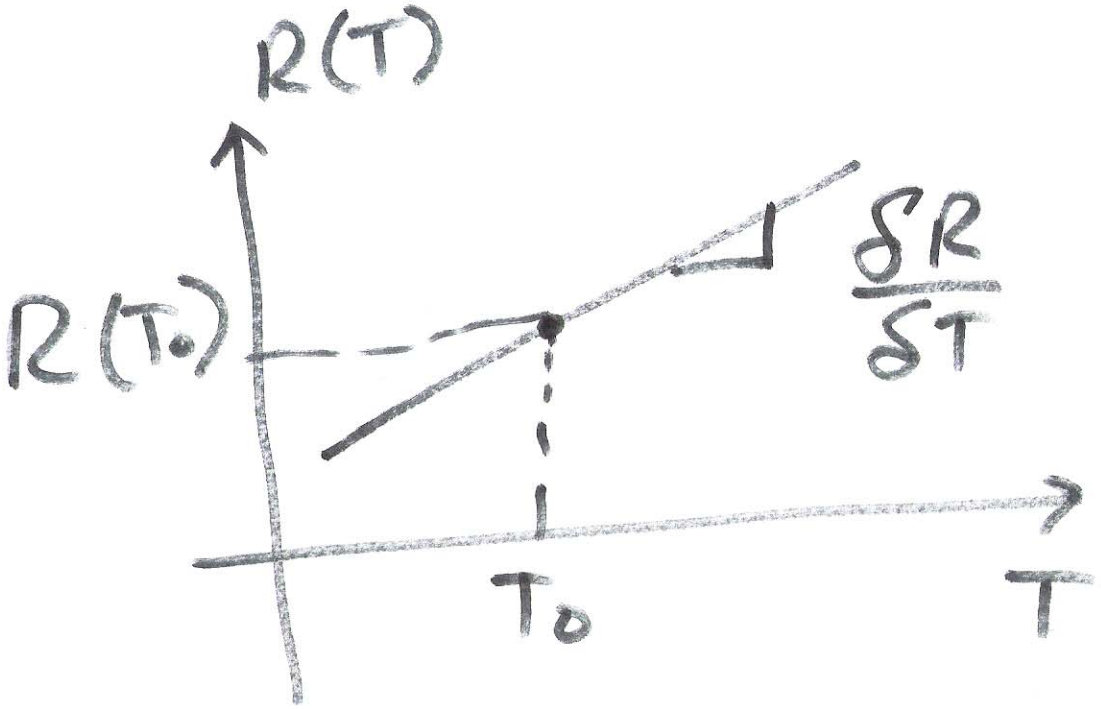
ρ: $\Omega \cdot cm$ — N: electron concentration (N_D) — P: Hole Concentration (N_A) — q: C

$$\text{Mobility} = \frac{\text{velocity } cm/s}{\Sigma \text{ field } V/cm}$$

$$= \frac{cm^2}{V \cdot s}$$

$\left(\frac{N_D}{N_i^2}\right)^{-1}$ — $\left(\frac{N_A}{N_i^2}\right)^{-1}$

$\frac{\text{Charge}}{cm^3}$



$ppm = 10^{-6}$

N-well

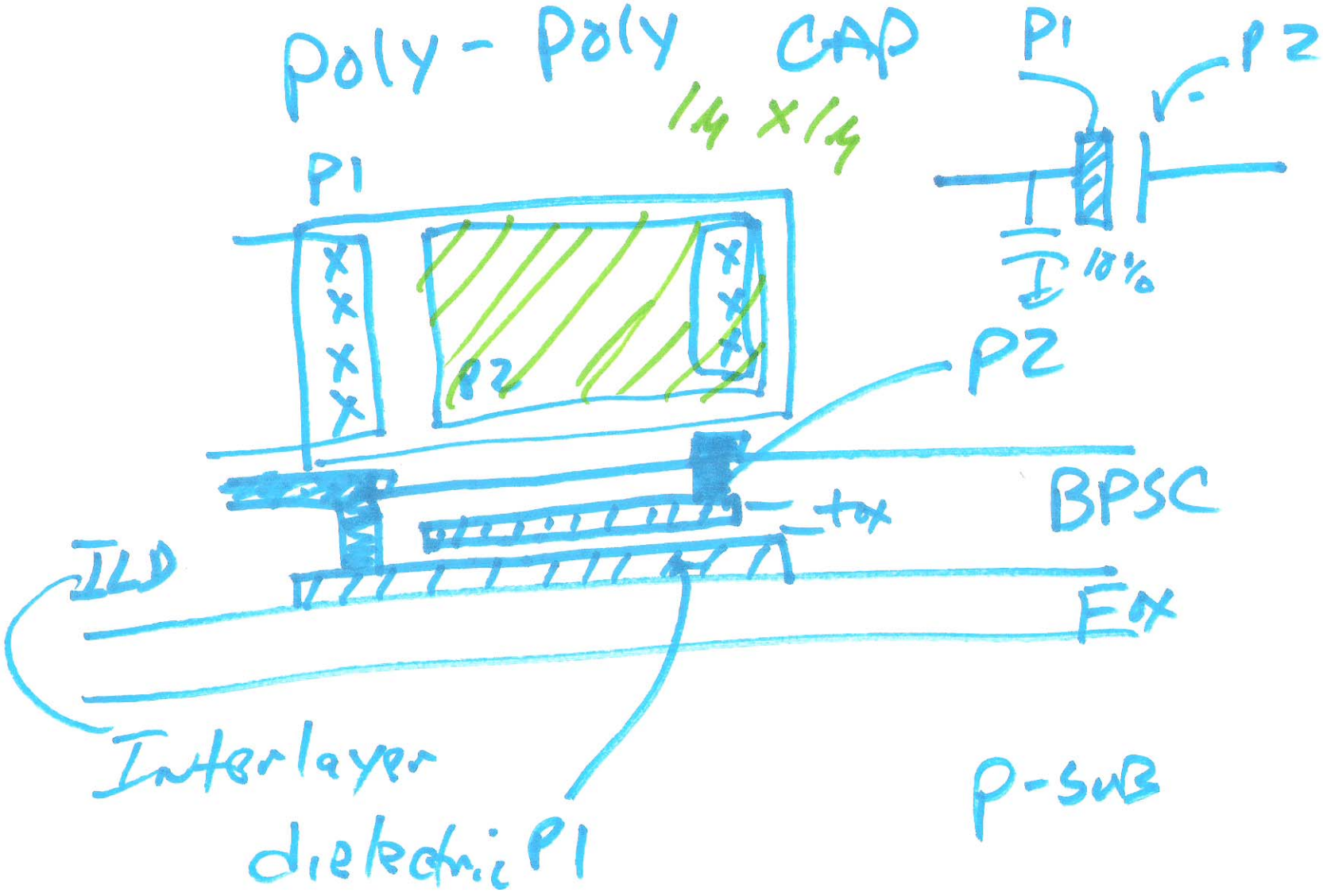
10K resistor at 300K

TC = 2,000 ppm/C° ?

$$R(T) = R(T_0)\left(1 + \frac{1}{R(T_0)}\frac{\delta R}{\delta T}(T - T_0)\right)$$

$$TCR = \frac{1}{R}\frac{\delta R}{\delta T} = 0.002/C° = 2{,}000\ \frac{ppm}{C°}$$

$$R(350) = 10K\,(1 + 0{,}002\,(350 - 300)) = 11K$$


Poly - Poly CAP
1μ x 1μ
P1
P2
P1
P2
10%
P2
BPSC
tox
ILD
FOX
Interlayer
dielectric
P1
P-SUB