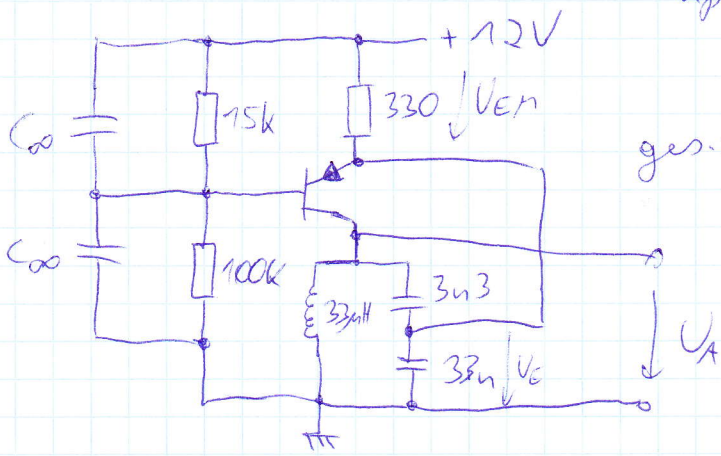
Uhl Clemen · 4AHECT (N) 4.10.17

WH

geg.: kapazitive Dreipunktschaltung

$R_B' = 10k$



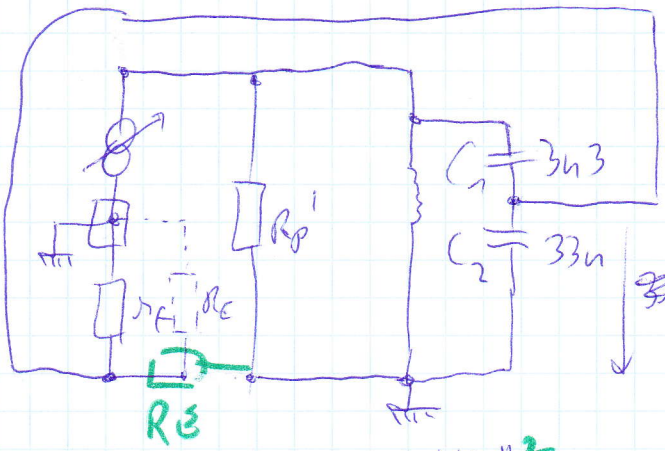
ges.: ~~f_0~~, HF-ESB, g

$$f_0 = \frac{1}{2\pi\sqrt{L_1 \cdot \frac{C_1 \cdot C_2}{C_1 + C_2}}} = 215{,}7\,kHz$$ ~~500~~

$$U_{R1} = 12 \cdot \frac{15}{115} = 1{,}565\,V$$ ✓

$U_{EH} = 0{,}965\,V \Rightarrow I_E = I_C = 2{,}92\,mA$

$$r_f = \frac{U_T}{I_C} = \frac{27\,mV}{2{,}92\,mA} \approx 9\,\Omega$$ ✓



$$u'' = \frac{U_A}{U_E} = \frac{\frac{3n3 \cdot 33n}{3n3 + 33n}}{33n} = \frac{3}{11}$$

$$u'' = \frac{U_A}{U_E} = \frac{\frac{1}{j\omega C_1} + \frac{1}{j\omega C_2}}{\frac{1}{j\omega C_2}} = \frac{C_1 + C_2}{C_2}$$

$u'' = 11$ ✓

$$g = K \cdot V = \frac{R_B' \| u''^2 \cdot r_f}{r_f} \cdot \frac{1}{11} = 1{,}92$$ ~~1,92~~ 10