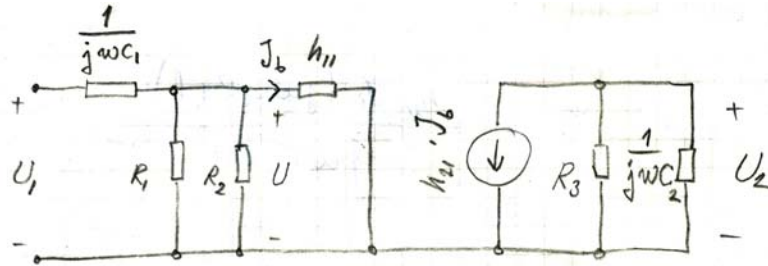


E29

a)



$$U_2 = -h_{21} I_b \cdot \frac{R_3 \cdot \frac{1}{j\omega C_2}}{R_3 + \frac{1}{j\omega C_2}} = -R_3 h_{21} I_b \cdot \frac{1}{j\omega C_2 R_3 + 1} \dots (1)$$

$$U = h_{11} \cdot I_b \dots (2)$$

$$U = U_1 \cdot \frac{R}{\frac{1}{j\omega C_1} + R} = U_1 \cdot \frac{j\omega C_1 R}{j\omega C_1 R + 1} \dots (3)$$

$$\rightarrow \frac{1}{R} = \frac{1}{R_1} + \frac{1}{R_2} + \frac{1}{h_{11}} \Rightarrow R = 870 \Omega$$

(2) ins i (3)  $\Rightarrow$

$$U_1 = \frac{h_{11} I_b (j\omega C_1 R + 1)}{j\omega C_1 R}$$

$$\frac{U_2}{U_1} = - \frac{R_3 h_{21}}{h_{11}} \cdot \frac{j\omega C_1 R}{j\omega C_1 R + 1} \cdot \frac{1}{j\omega C_2 R_3 + 1}$$

$$\downarrow$$

$$2h_{21}$$

$$\downarrow$$

$$0,010608 = \frac{1}{94,26}$$

$$\omega_M = 2\pi f_M$$

$$\Rightarrow f_M = 15 \text{ Hz}$$

$$\downarrow$$

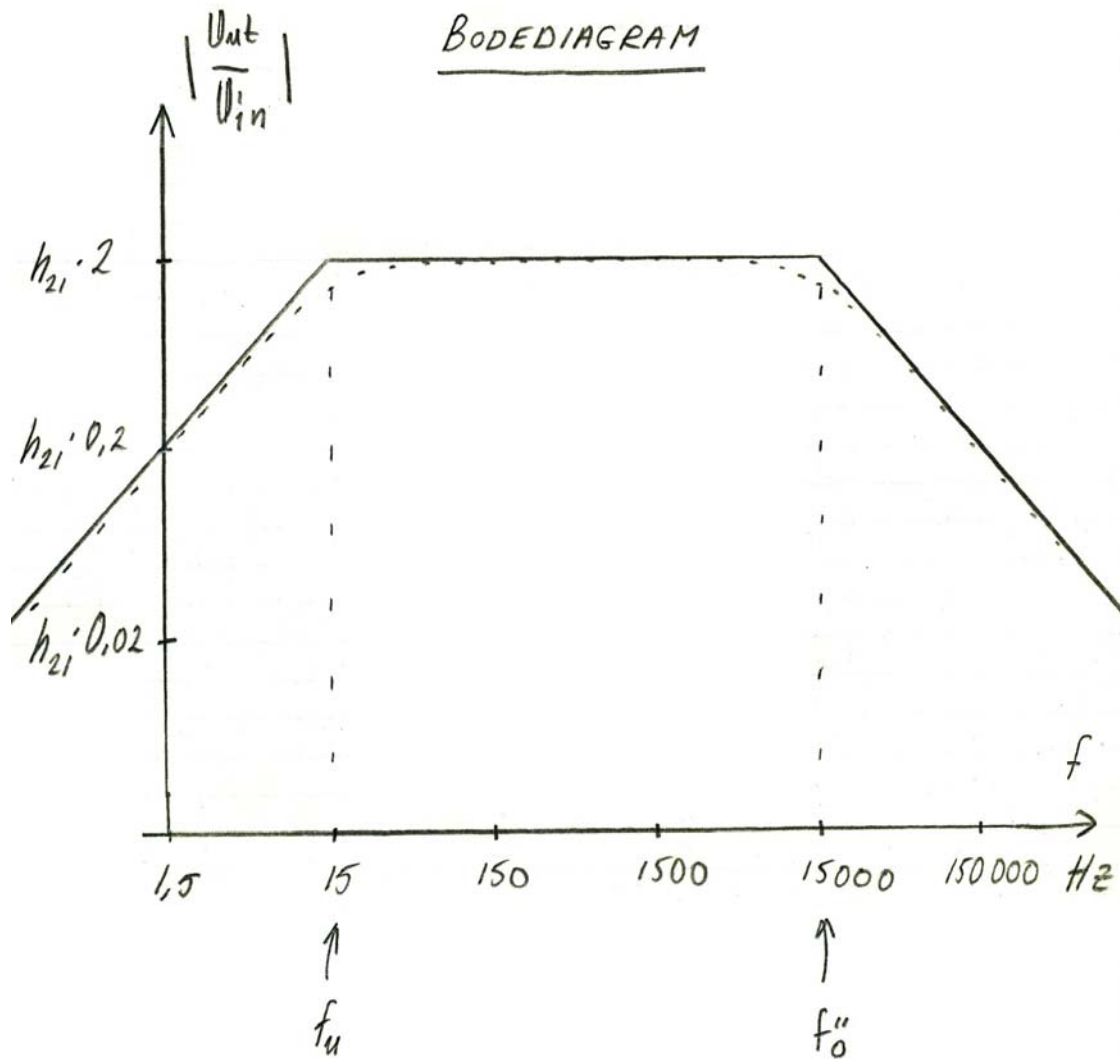
$$0,0000106 = \frac{1}{94340}$$

$$\omega_0'' = 2\pi f_0''$$

$$\Rightarrow f_0'' =$$

$$= 15 \text{ kHz}$$

$$\left| \frac{U_2}{U_1} \right| = 2h_{21} \frac{\omega C_1 R}{\sqrt{(\omega C_1 R)^2 + 1}} \cdot \frac{1}{\sqrt{(\omega C_2 R_3)^2 + 1}}$$



DÅ  $f \ll f_u$  OCH  $f \gg f_o$ , LUTAR

KURVAN 10 SGR/DEKAD.