



$$V_{in} = 100 \text{ mV} \quad G_V = -15 \text{ V} \quad V_{CC} = 15 \text{ V}$$

$$V_b = V_{CC} \cdot \frac{R_1}{R_1 + R_2} = 3,17 \text{ V} \quad V_{be} = 3,17 - 0,7 = 2,47 \text{ V} \quad I_e = \frac{2,47}{120} = 20,58 \text{ mA}$$

$$V_e = 15 - 20,58 \cdot 10^{-3} \cdot 470 = 5,33 \text{ V} \quad V_{out} = -15 \cdot V_{in} = -1,5 \text{ V}$$

$$V_{ce} = 15 - 20,58 \cdot 10^{-3} \cdot (470 + 120) = 2,86 \text{ V} \quad I_{sat} = \frac{15}{470 + 120} = 25,42 \text{ mA}$$



