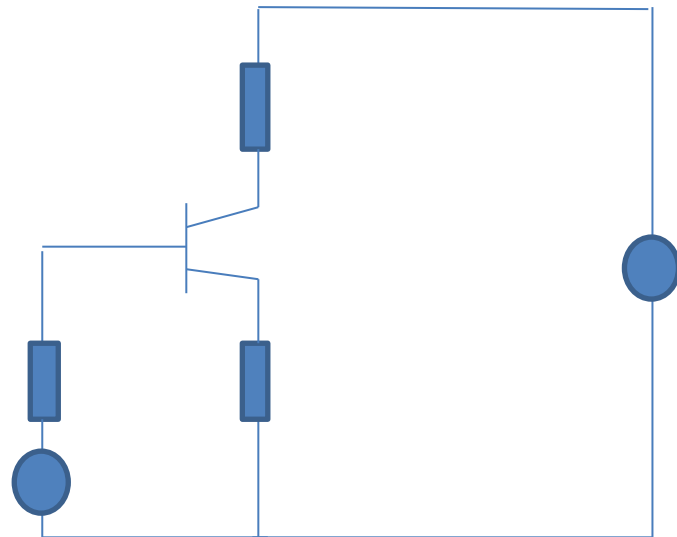
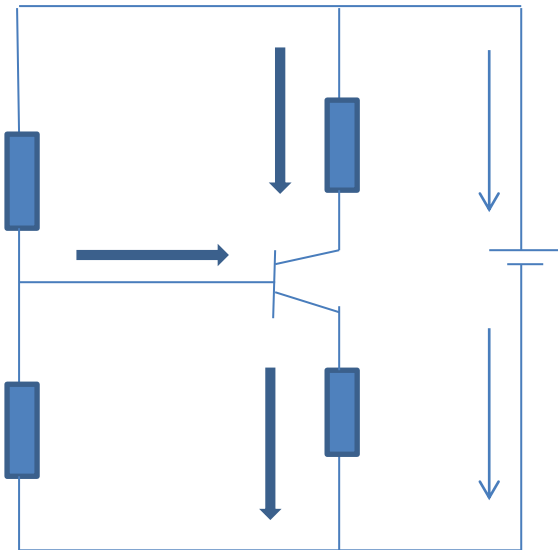




$$R_C = 2,2 \text{ k}\Omega$$

$$R_E = 0,047 \text{ k}\Omega$$

$$\beta = 120$$

$$U_T = 12 \text{ V}$$

$$U_{BE} = 0,7 \text{ V}$$

$$U_{SAT} = 0,2 \text{ V}$$

$$I_{C_{MAX}} = 5,251 \text{ mA}$$

$$I_{C_{MP}} = 2,6255 \text{ mA}$$

$$I_E = 2,6378 \text{ mA}$$

$$I_B = 0,0218 \text{ mA}$$

$$I_{R1} = 0,218 \text{ V}$$

$$I_{R2} = 0,218 \text{ V}$$

$$U_E = 0,1239 \text{ V}$$

$$U_B = 0,8239 \text{ V}$$

$$U_C = 6,1864 \text{ V}$$

$$U_{R1} = 11,1761 \text{ V}$$

$$U_{R2} = 0,8239 \text{ V}$$

$$U_{AB} = 11,0915 \text{ V}$$

$$U_{CE} = 6,0445 \text{ V}$$

$$U_{RC} = 5,8316 \text{ V}$$

$$R_1 = 51,2665 \text{ k}\Omega$$

$$R_2 = 4,1992 \text{ k}\Omega$$

$$I_{cmax} = \frac{U_t - U_{sat}}{R_c + R_e} = \frac{12 - 0,2}{2,2 + 0,047} = \frac{11,8}{2,247} = 5,251 \text{ mA}$$

$$I_{cmp} = \frac{I_{cmax}}{2} = \frac{5,251}{2} = 2,6255 \text{ mA}$$

$$I_B = \frac{I_c}{B} = \frac{2,6255}{120} = 0,0218 \text{ mA}$$

$$I_E = (1 + B) * I_B = (1 + 120) * 0,0218 = 2,6378 \text{ mA}$$

$$I_E = I_c + I_B = 2,6255 + 0,0218 = 2,6473 \text{ mA}$$

$$U_E = R_E * I_E = 0,047 * 2,6378 = 0,1238 \text{ V}$$

$$U_B = U_E + U_{Be} = 0,1239 + 0,7 = 0,8239 \text{ V}$$

$$U_{R2} = U_B = 0,8239 \text{ V}$$

$$U_{R1} = U_T - U_{R2} = 12 - 0,8239 = 11,1761 \text{ V}$$

$$I_{R1} = 10 * I_B = 10 * 0,0218 = 0,218 \text{ V}$$

$$R_1 = \frac{U_{R1}}{I_{R1}} = \frac{11,1761}{0,218} = 51,2665 \text{ K}\Omega$$

$$R_2 = \frac{U_{R2}}{I_{R2}} = \frac{0,8239}{0,1962} = 4,1992 \text{ K}\Omega$$

$$U_{RC} = I_E * R_C = 2,2 * 2,6378 = 5,8316 \text{ V}$$

$$U_C = U_T - U_{RC} = 12 - 5,8316 = 6,1684 \text{ V}$$

$$U_{CE} = U_C - U_E = 6,1684 - 0,1239 = 6,0445 \text{ V}$$

$$U_{AB} = U * \frac{R_1}{R_1 + R_2} = 12 * \frac{51,2665}{51,2665 + 4,1992} = 11,0915 \text{ V}$$