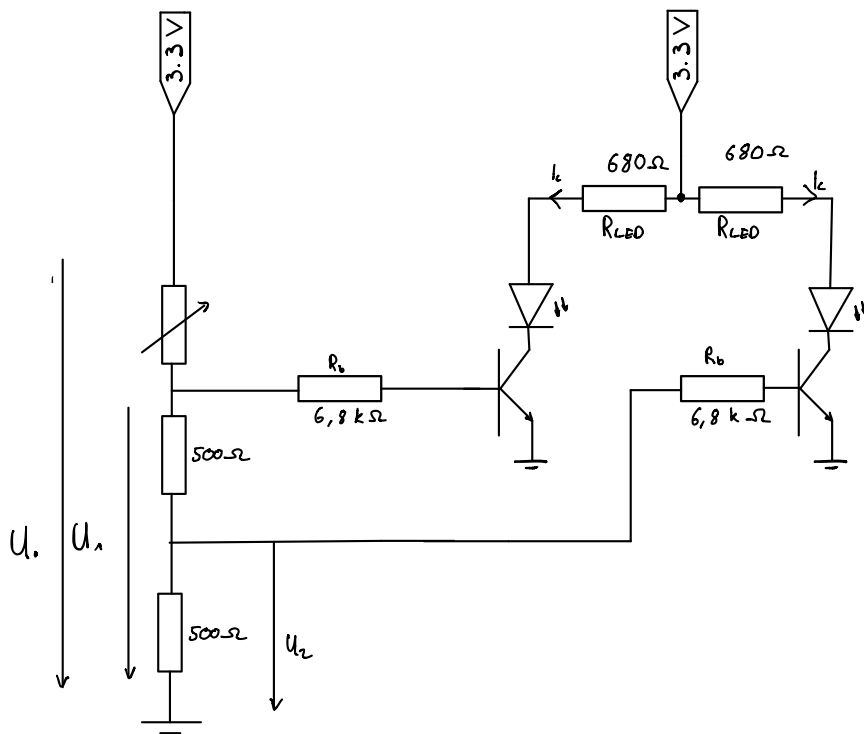




$$U_0 = 3.3 \text{ V}$$

$$U_1 = 0.7 \text{ V}$$

Bei 43°C

$$R_{NTC1} = 3745.5 \Omega$$

Bei 78°C

$$R_{NTC2} = 1341.14 \Omega$$

Transistor BC547 C

$$h_{FE} = 420 \sim 800$$

$$\frac{U_2}{U_0} = \frac{R_{12}}{R_{NTC1} + R_{12}}$$

$$\rightarrow R_{12} \approx 1 \text{ k}\Omega$$

$$\frac{U_2}{U_0} = \frac{R_2}{R_{NTC2} + R_{12}}$$

$$R_2 \approx 500 \Omega$$

$$R_1 = R_{12} - R_2 = 500 \Omega$$

$$I_c = \frac{U_0}{R_{LED}}$$

$$I_c = 4.85 \text{ mA}$$

$$\frac{h_{FE}}{3.3} = \frac{420}{3.3} = 127.27$$

$$I_b = \frac{I_c}{127.27} = 0.038 \text{ mA} \rightarrow ?$$

$$R_b = \frac{U_0 - 0.7 \text{ V}}{I_b} = \frac{2.6 \text{ V}}{0.038 \text{ mA}} \approx 68000 \Omega \rightarrow ?$$