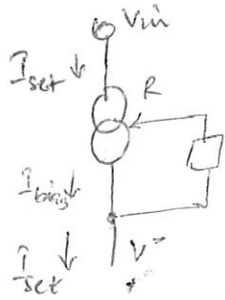


First LM334 \rightarrow set as a temperature sensor



$$1^\circ\text{C} = 273.15\text{K}; \quad 25^\circ\text{C} = 298.15\text{K}; \quad 95^\circ\text{C} = 368.15\text{K}.$$

$$I_{\text{set}} = \frac{V_R}{R_{\text{set}}} (5.9\%) = \left(\frac{V_R}{R_{\text{set}}} \right) (1.059)$$

For 95°C

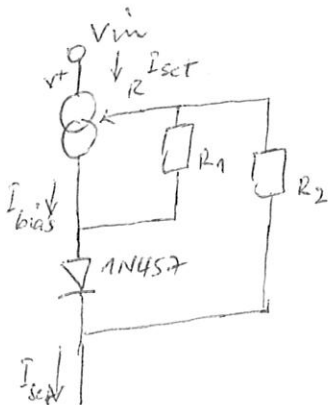
$$I_{\text{set}} = \frac{V_R}{R_{\text{set}}} (1.059)$$

$$1^{\text{st}}: 214\mu\text{V} \times 368.15\text{K} = 78.78 = 78.8\text{mV}$$

$$\therefore I_{\text{set}} = \frac{78.8\text{mV} (1.059)}{R_{\text{set}}} = \frac{83.4\text{mV}}{R}$$

$$\text{To set } I_{\text{set}} = 1\mu\text{A} \Rightarrow R_{\text{set}} = \frac{83.4\text{mV}}{1\mu\text{A}} = 83.4\text{K}.$$

Secondly LM334 \rightarrow Zero Tempco Current source



For 95°C

$$I_{\text{set}} = \frac{83.4\text{mV}}{R_1} + \frac{83.4\text{mV} + 0.65\text{V}}{10R_2}$$

$$I_{\text{set}} = \frac{1.57\text{V}}{10R_2}$$

To set I_{set} to $368\mu\text{A}$

$$\Rightarrow 368\mu\text{A} = \frac{1.57\text{V}}{10R_2} \Rightarrow 10R_2 = 4266\Omega$$

and therefore $R_2 = 4.266\text{K}$

$$R_1 = 426.6\Omega.$$

Thirdly Sum up

