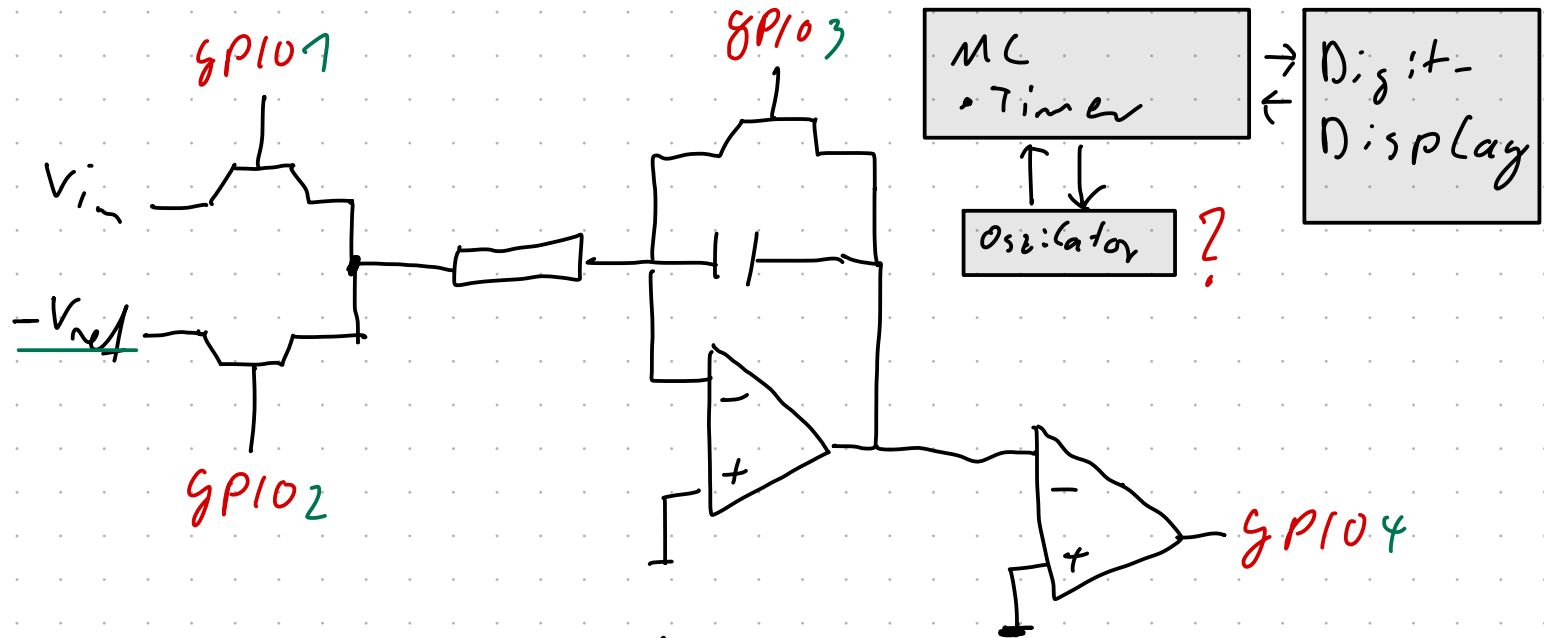


passende MC: esp32
 • ch32v003
 • msp430

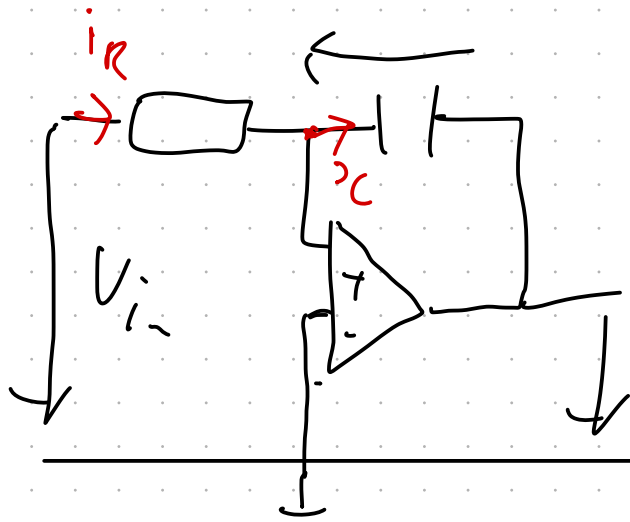
?



GPIO	Idle	Ankaden	Entladen	fertig
1	0	1	0	✓
2	0	0	1	✓
3	1	0	0	✓
4	✓	1	1	0 → Interrupt

$$V_{in} = V_{ref} \cdot \frac{\text{counter}(in)}{\text{counter}(ref)}$$

Zeitmessung mit Timer



$$U_{out} = U_c = -\frac{1}{C} \int i_c dt$$

$$i_c = -\frac{dU_c}{dt} \cdot C$$

$$i_R = i_C = i$$

$$U_{out} = U_c$$

$$U_{in} = U_R$$

$$\frac{U_{in}}{R} = -C \cdot \frac{dU_{out}}{dt} \Rightarrow U_{out} = -\frac{1}{RC} \cdot \int U_{in} dt + C$$

U_0

$$RC = 1ms \Rightarrow \frac{V}{ms} \text{ slope}$$