

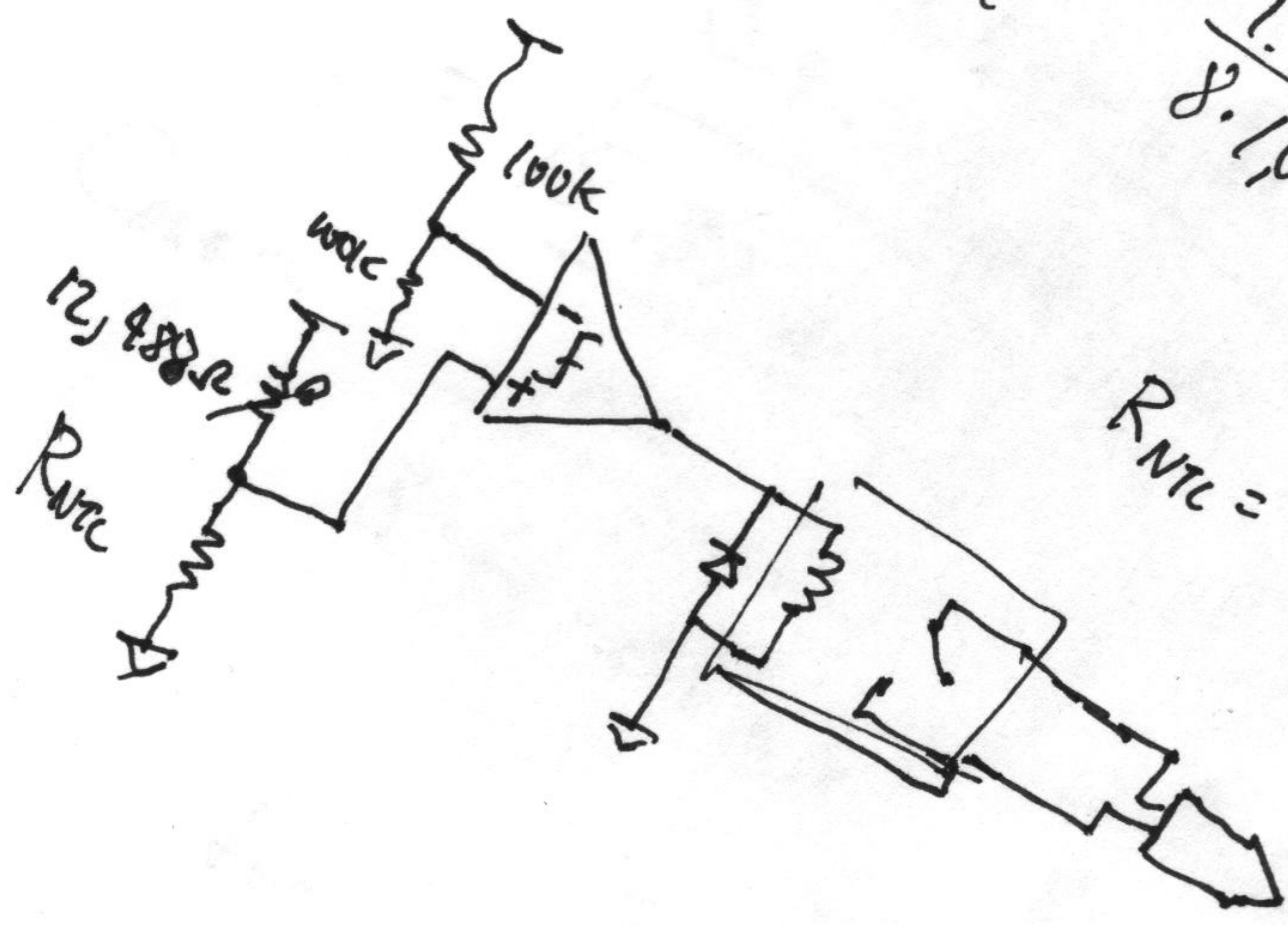
$$D = \text{Duty Cycle} = \frac{V_{out}}{V_{in} \cdot \eta} = \frac{5V}{12 \cdot 0.9} = 0.46296$$

$$\Delta I_L = \frac{V_{in} - V_{out} \cdot D}{f_s \cdot L} \quad \text{assume } 0.3 \cdot I_{outmax} = 1.0182$$

$$L = \frac{V_{out} \cdot (V_{in} - V_{out})}{\Delta I_L \cdot f_s \cdot V_{in}} = \frac{5 \cdot (12 - 5)}{(1.0182) \cdot 1 \text{ MHz} \cdot 12} = 12.86 \mu\text{H}$$

$$C_{out} = \frac{\Delta I_L}{8 \cdot f_s \cdot \Delta V_{out}} = \frac{1.0182}{8 \cdot 1,000,000 \cdot 100 \text{ mV}} = 12.73 \mu\text{F}$$

$$R_{NTC} = 12488 \Omega @ 20^\circ\text{C}$$



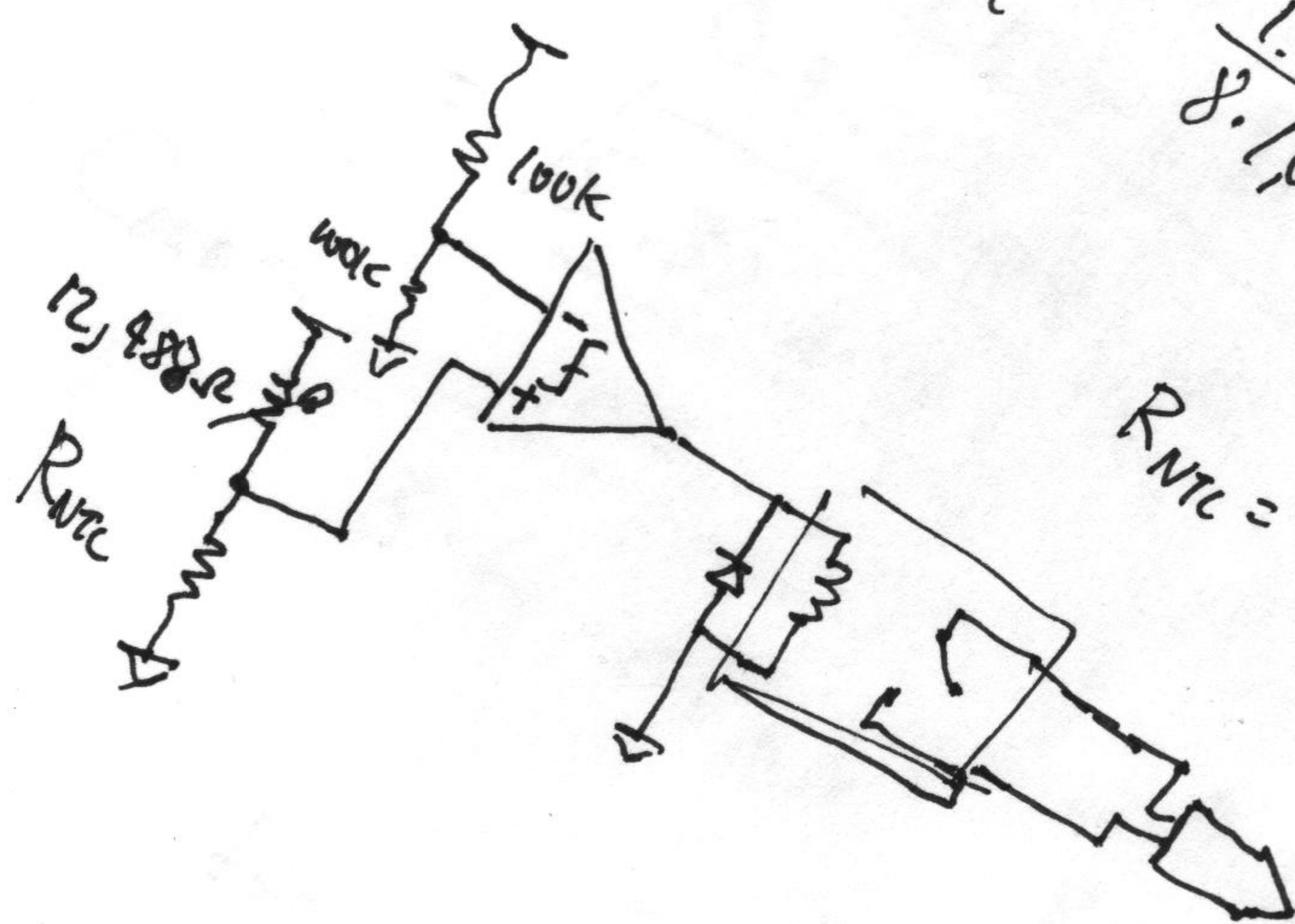
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5



$$R_{NTC} = 12488 \Omega @ 20^\circ\text{C}$$

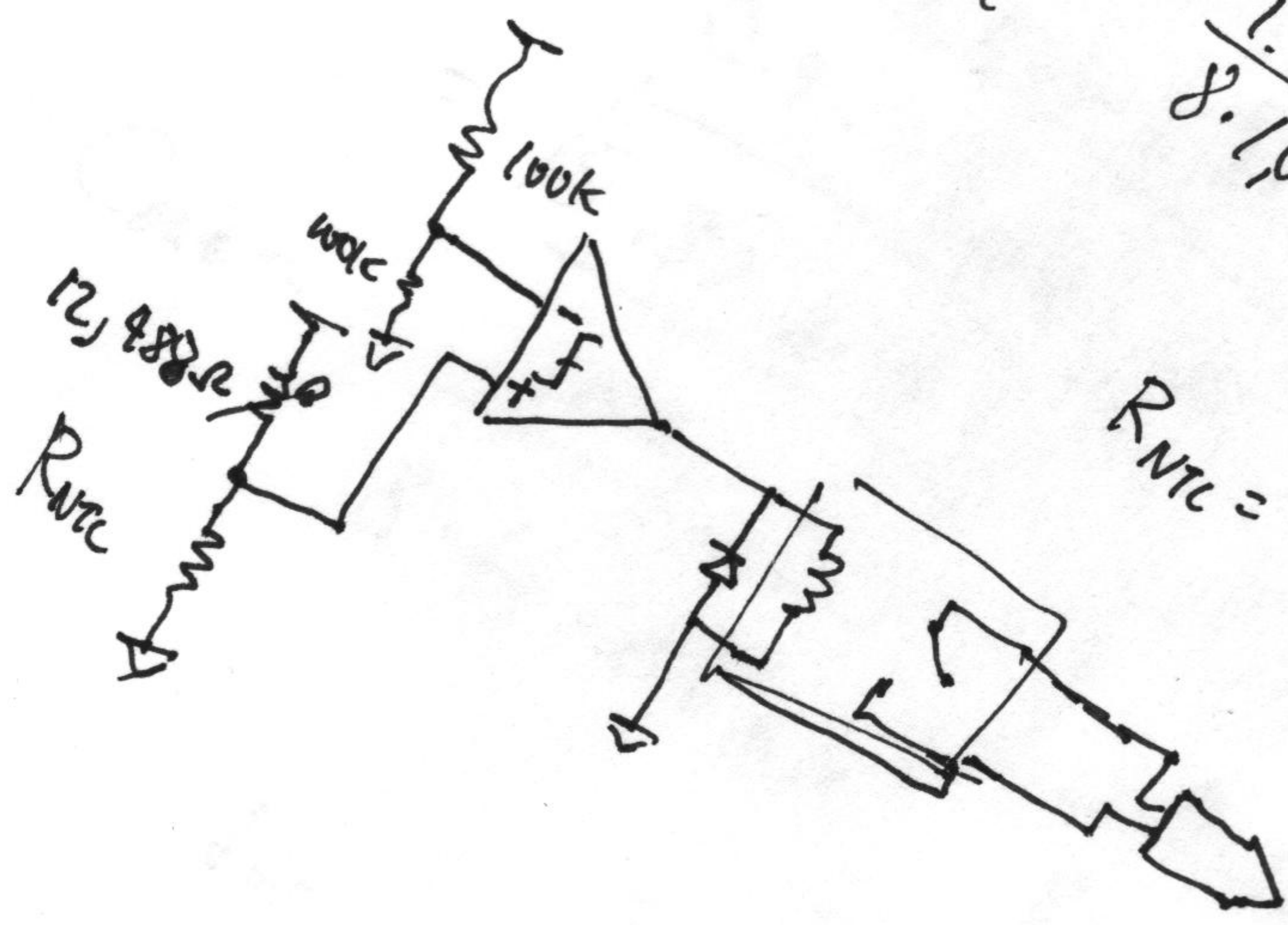
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$$R_{NTC} = 12488 \Omega @ 20^\circ C$$



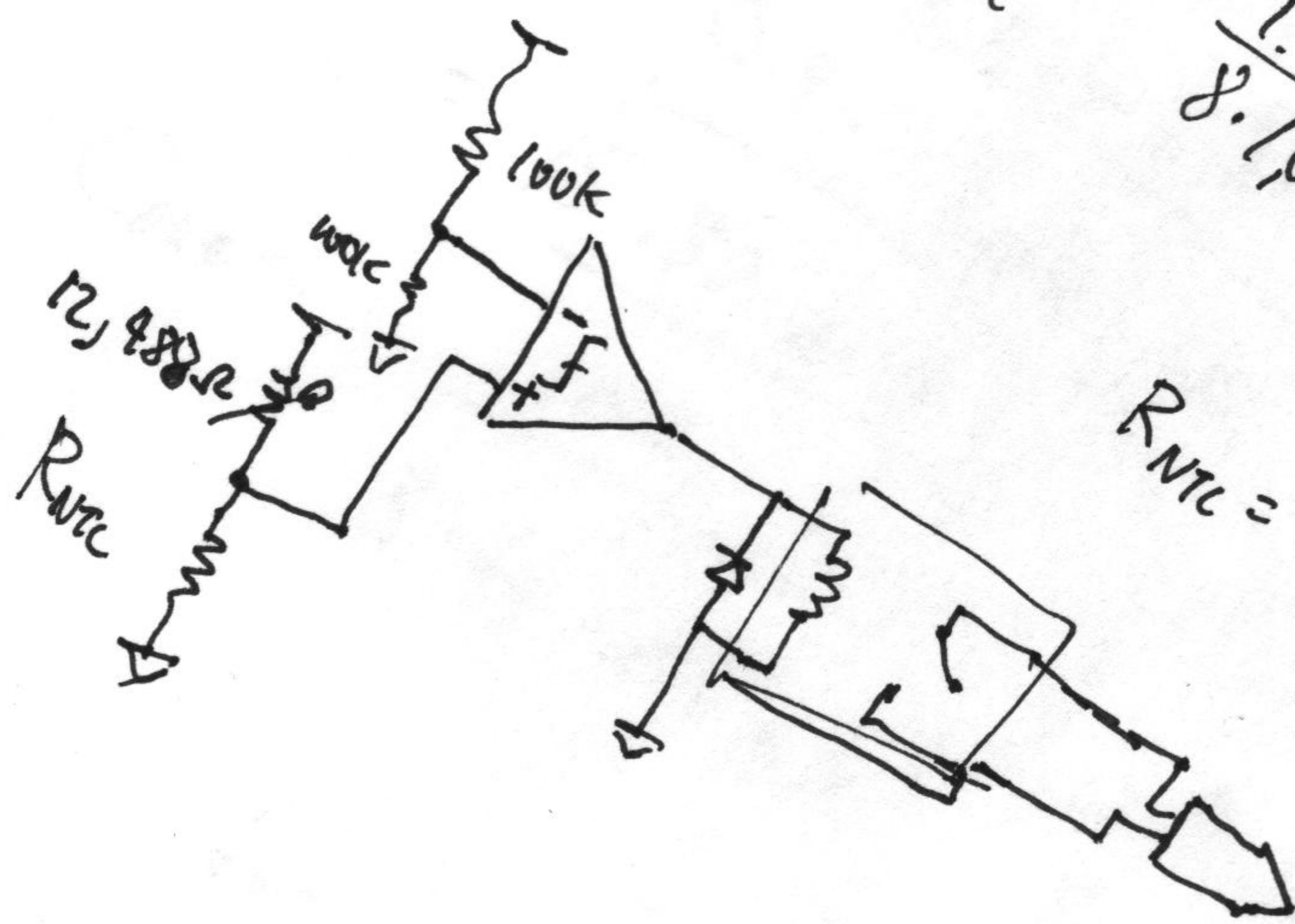
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$$C_{out} = \frac{\Delta I_L}{8 \cdot f_s \cdot \Delta V_{out}} = \frac{1.0182}{8 \cdot 1,000,000 \cdot 100 \text{ mV}} = 12.73 \mu\text{F}$$

$$R_{NTC} = 12488 \Omega @ 20^\circ\text{C}$$

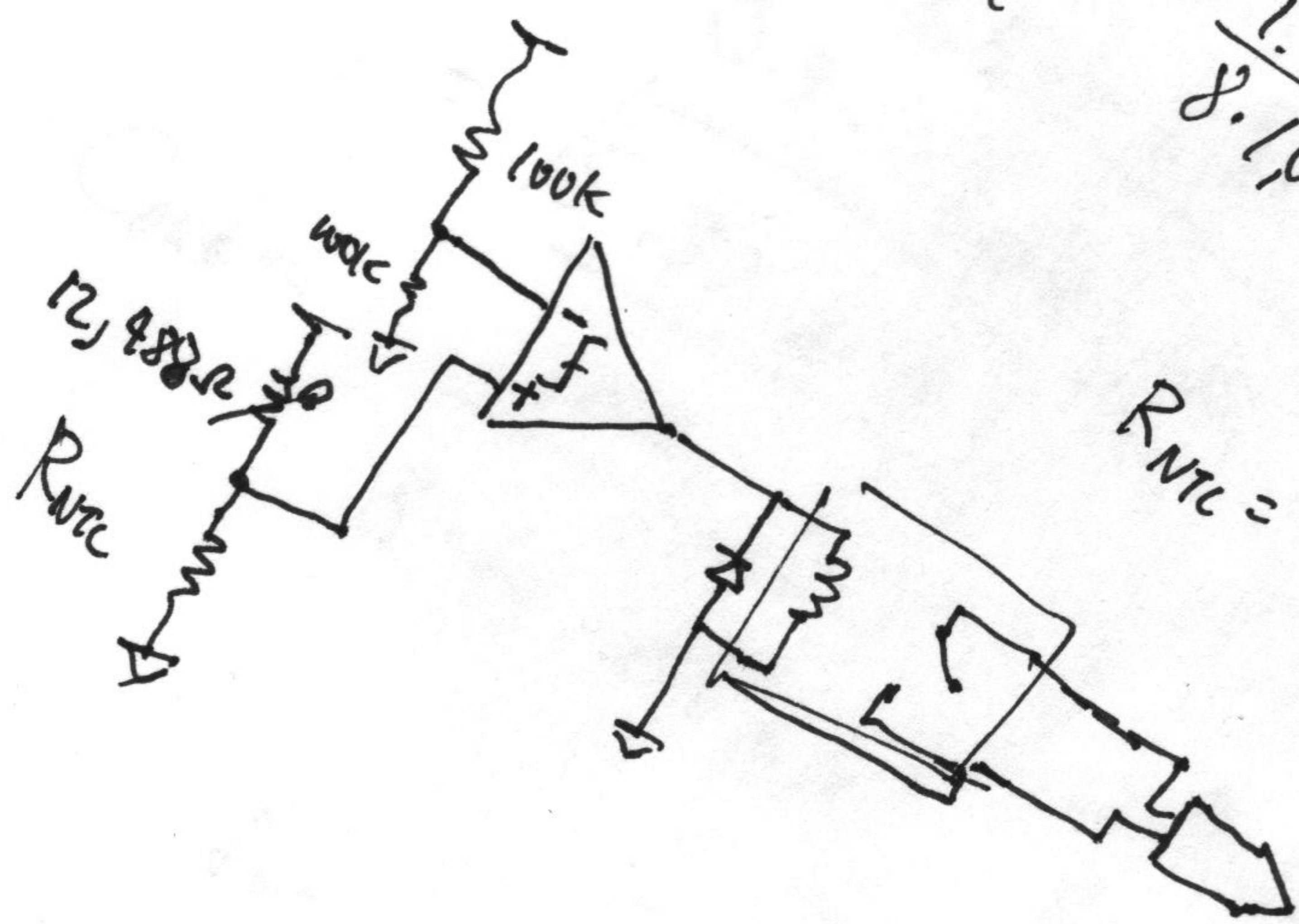


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$$C_{out} = \frac{\Delta I_L}{8 \cdot f_s \cdot \Delta V_{out}} = \frac{1.0182}{8 \cdot 1,000,000 \cdot 100 \text{ mV}} = 12.73 \mu\text{F}$$



$$R_{NL} = 12488 \Omega @ 20^\circ\text{C}$$

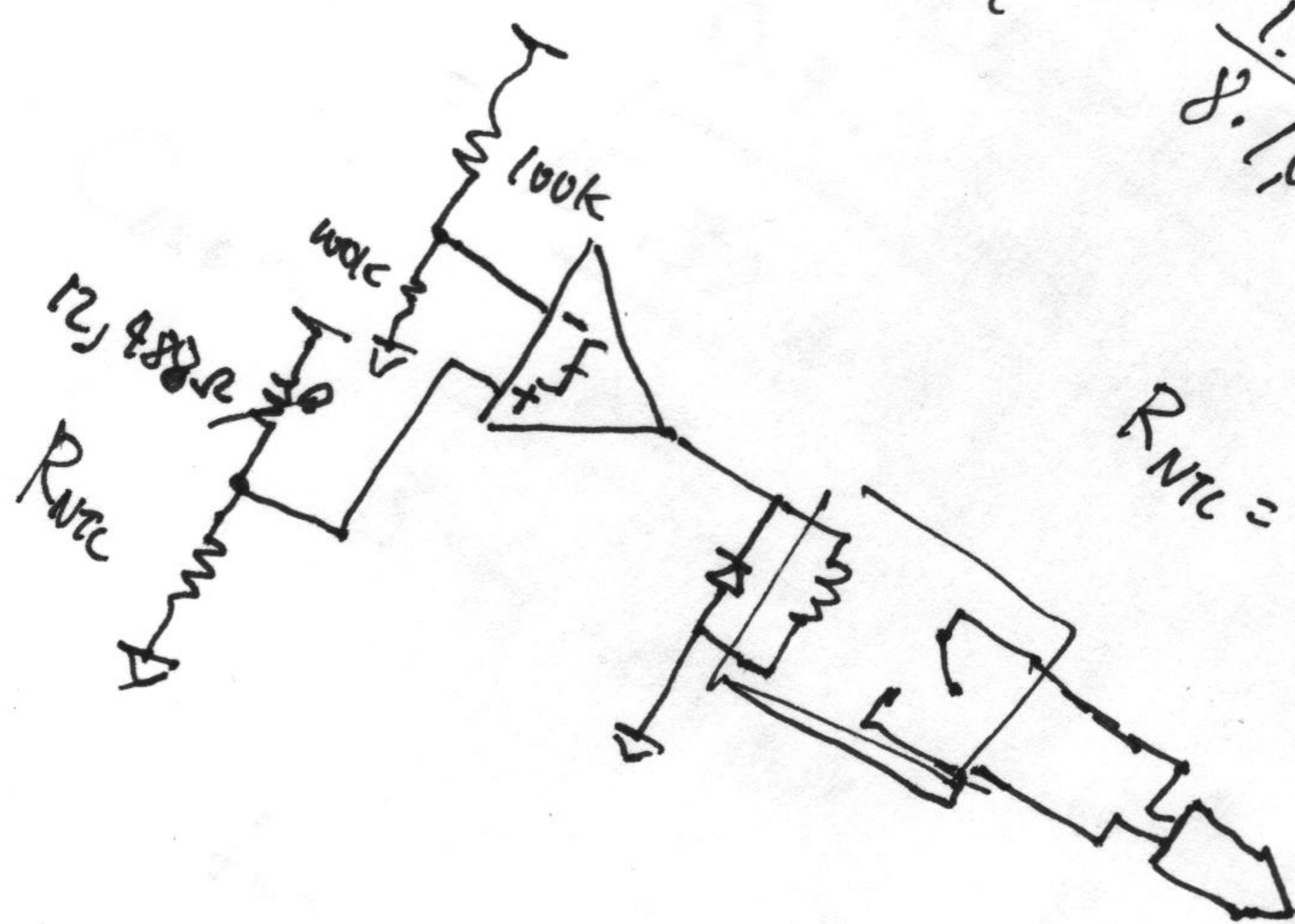
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$$C_{out} = \frac{\Delta I_L}{8 \cdot f_s \cdot \Delta V_{out}} = \frac{1.0182}{8 \cdot 1,000,000 \cdot 100 \text{mV}} = 12.73 \mu\text{F}$$

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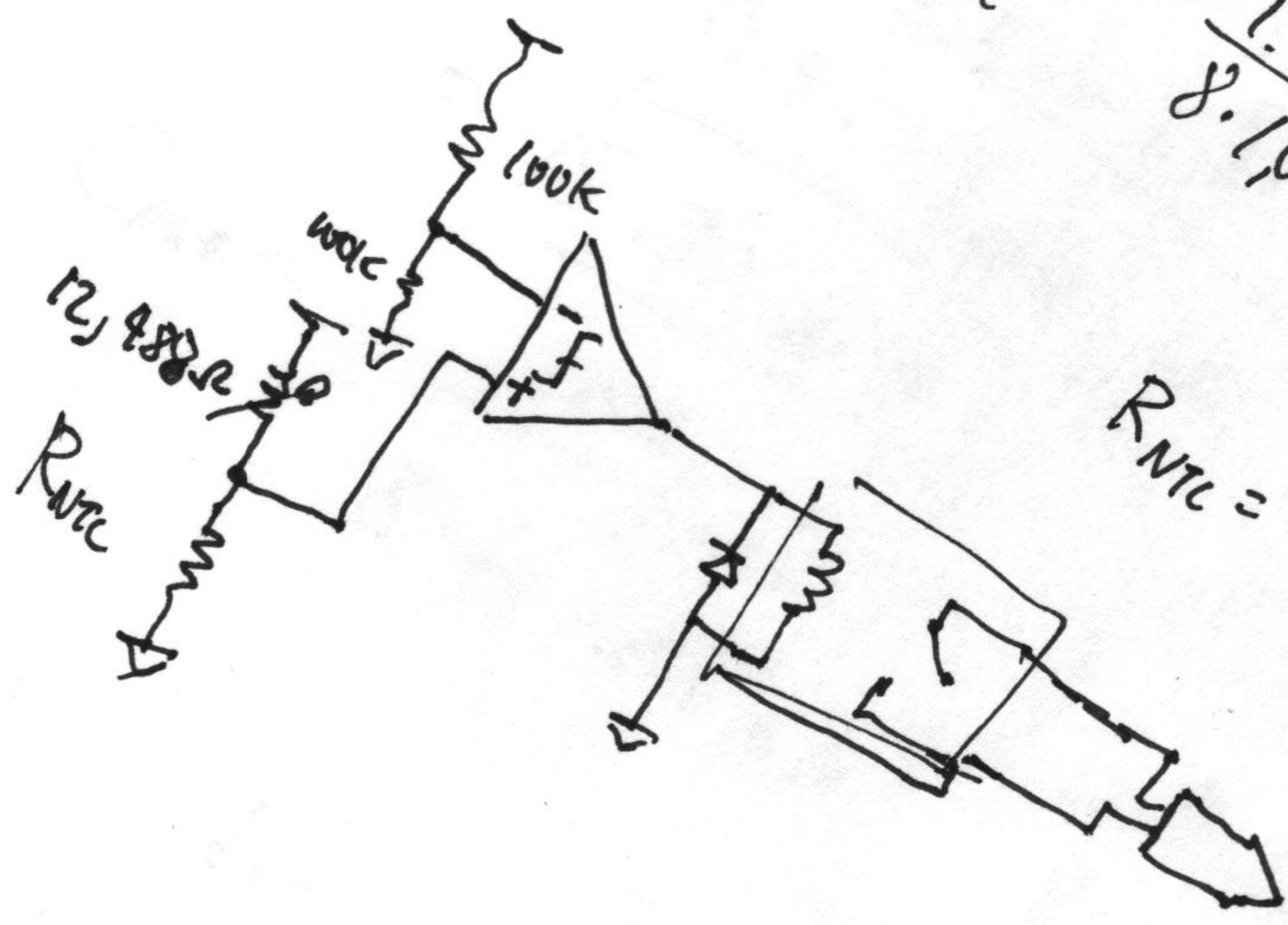


$$R_{NTC} = 12488 \Omega @ 20^\circ\text{C}$$

$$D = \text{Duty Cycle} = \frac{V_{out}}{V_{in} \cdot \eta} = \frac{5V}{12 \cdot 0.9} = 0.46296$$

$$\Delta I_L = \frac{V_{out} \cdot (V_{in} - V_{out})}{f_s \cdot L}$$

$$C_{out} = \frac{\Delta I_L \cdot f_s \cdot V_{in}}{8 \cdot f_s \cdot \Delta V_{out}} = \frac{1.0182}{8 \cdot 1,000,000 \cdot 100mV} = 12.7275 \mu F$$



$$R_{MTC} = 12488 \Omega @ 20^\circ C$$

$$19.374 \mu F$$

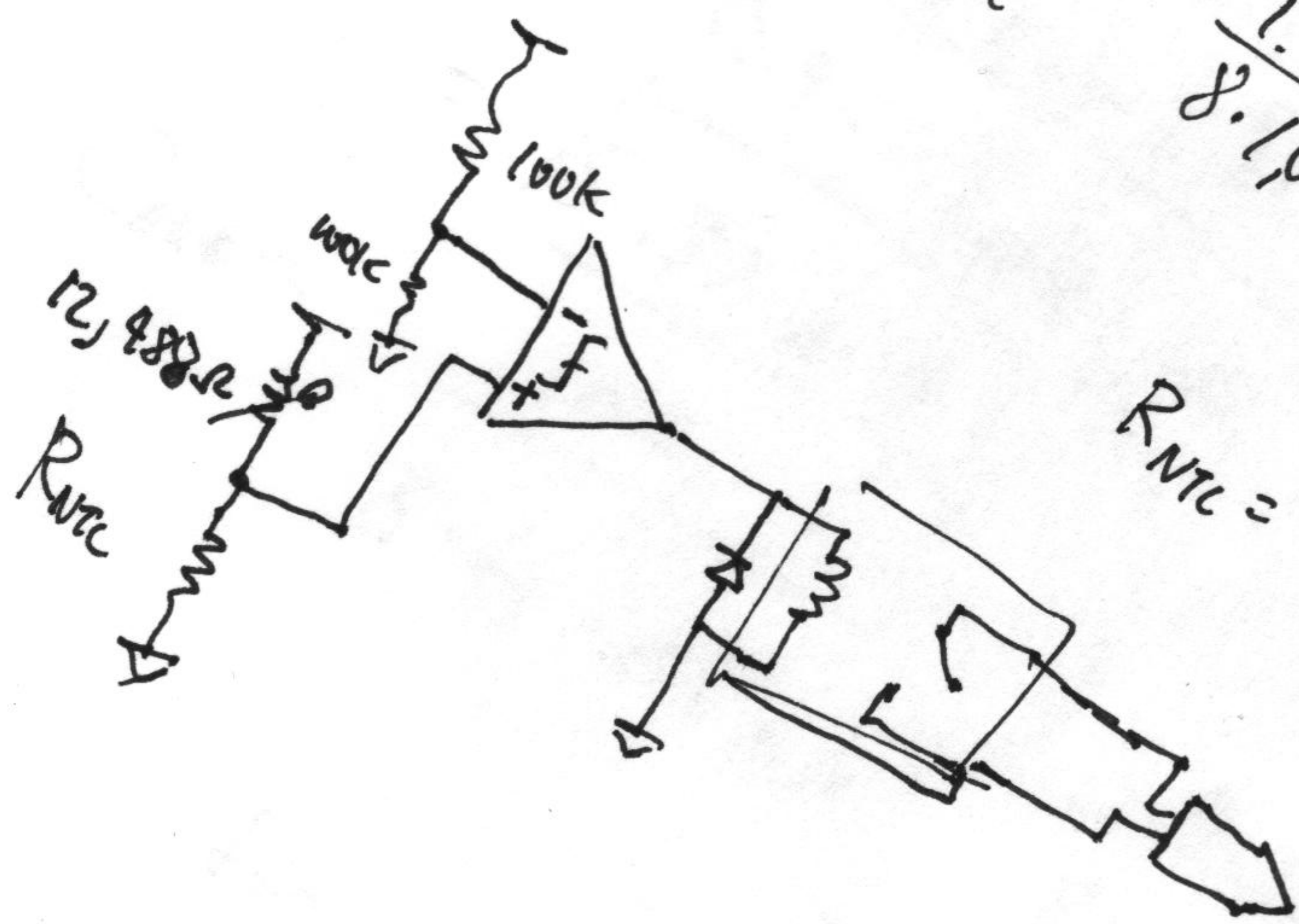
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$$C_{out} = \frac{\Delta I_L}{8 \cdot f_s \cdot \Delta V_{out}} = \frac{1.0182}{8 \cdot 1,000,000 \cdot 100 \text{ mV}} = 12.73 \mu\text{F}$$

5



$$R_{NTC} = 12488 \Omega @ 20^\circ\text{C}$$