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ECE 473

## Lab 2 Prelab

### LED Current Limiting Resistor

The maximum current that we can move through Port A is 100mA, so the maximum that can move though a LED segment is 12.5mA (assuming they are all on at once, 100mA / 8 is 12.5mA).

That leads to the following calculations for resistor sizing:

From this, we can assume a real world value of 220Ω as a starting value.

### PWM Biasing Resistor

We do not know what our is, but if we assume that it is at the most possible amplification state, as specified in the datasheet as 300, then we can perform “worst-case” calculations.

### Q1-Q5 Biasing Resistors

This is similar to the last one, except we need to include the assumption of a .2 drop across the PWM transistor, so we get the following using the above process: