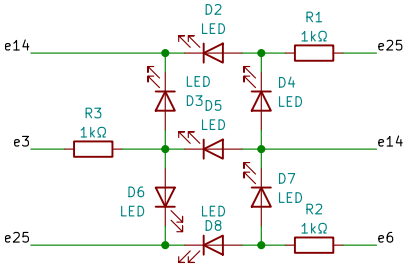
What's going on here:

This whole circuit folds up into a roughly 3mm by 2mm SMD footprint (that would be 1208 in imperial sizes, I think).

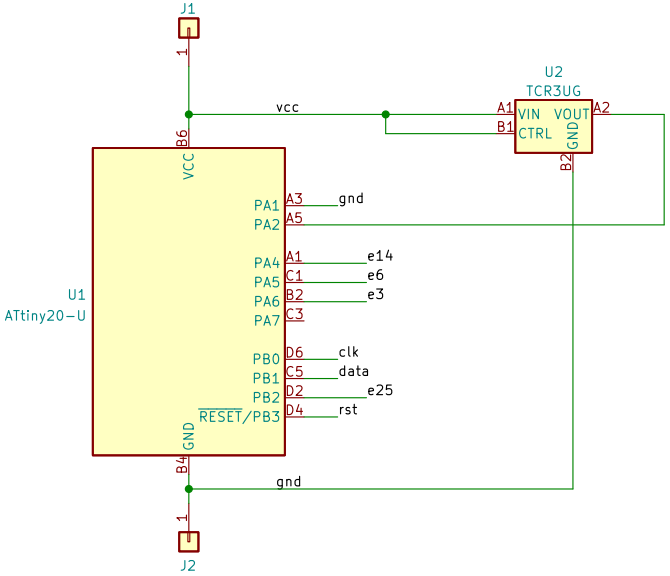
In its assembled state, the board has just two pads: V_{in} and GND.

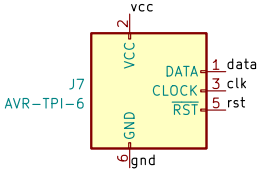
By varying V_{in}, we change the operating voltage of the ATtiny20; meanwhile, the TCR3UG LDO ensures that one of the analog inputs always receives 1.8V (that was the BGA LDO I had on hand).

By performing an ADC operation and knowing that the ADC input voltage is 1.8 V, the ATtiny20 can deduce what its operating voltage is, and change the digit it's displaying.



4-input LED arrangement from Rue Mohr:
http://ruemohr.org/~ircjunk/projects/micro7seg/slide.htm





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