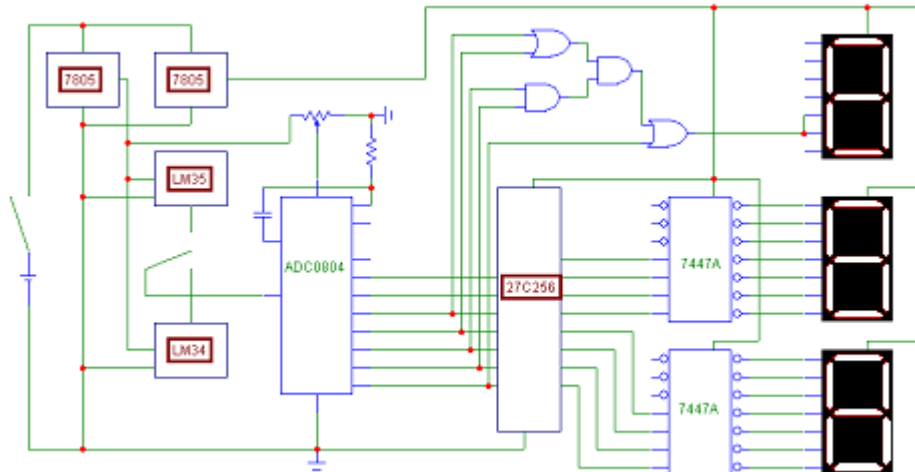


Matthew Vernon
E lab 3 Module
3-4-01

Digital Thermometer



Minimum Input Voltage: 7V
Sample Resolution: 0.5 Degree
Display Resolution: 1 Degree
Typical Current: 50mA to 100mA
Unit Cost: \$25

The digital thermometer is based on the LM34 and LM35 precision temperature sensors. The sensors output 10mV per degree temperature. This is sampled by an analog to digital converter with a full scale input of 2.56V. The high seven bits of the output are input to an eprom as an address. The eprom holds a look up table containing two character bcd equivalents for each binary input. The output is two bcd characters which are input to two bcd to seven segment converters/drivers. The third seven segment display is used only for a leading one.