

• Power supply: As we need precise measurement of humidity, we would not accept the noise generated by switching converters like ~~feedback~~ ~~and~~ ~~flyback~~ and ~~feedforward~~. Hence we prefer the use of a linear voltage regulator for the power supply. Moreover, linear regulators are more simple in their design and hence more reliable than switching converters, which is very important in this design as cost of failure is great.

First, we use a step down transformer to get AC voltage close to 9V ~~(not value (10V))~~

Then a full wave rectifier is used to rectify the voltage and then a 7805 linear regulator gives us the regulated output voltage of 5V

Efficiency of Linear regulator = $\frac{V_{out}}{V_{in}}$

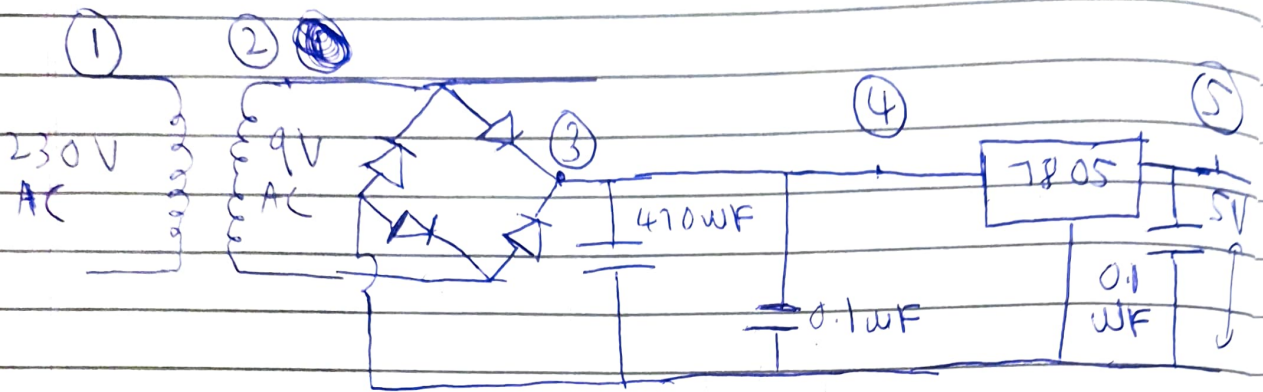
= $\frac{5}{9} = 55\%$. Though this efficiency is not too good, since our

application is low power this is not too much of a concern.

~~However, a heat sink must be used on~~

As the buzzer draws very small currents (35mA) we need not be concerned about power dissipation in the 7805 regulator

Circuit diagram of power supply



Voltage waveforms

