**Power Supply 5V**

SOME DESCRIPTION HERE



NEW Circuit diagram

The Power Supply provides a regulated 5V DC voltage to the ATmega 328P-AU microcontroller. The same 5V DC powers the OPAMP ICs used for sensor circuitry. This is to limit the output voltage of the sensor amplifiers to 5V, as they are directly fed into the GPIO pins of the 328P.

The circuitry consists of a 5.1V Zener reference which is buffered through a voltage follower. The output of the voltage follower is attached to the base of an NPN transistor to improve the maximum supply current rating. The absolute maximum DC supply current rating of the 328P is specified to be 200mA, and thus, the maximum current rating of the Microcontroller Power Supply is designed to be safely under this value (what value?).