

SIMULATION AND ANALYSIS OF VOLTAGE REGULATOR

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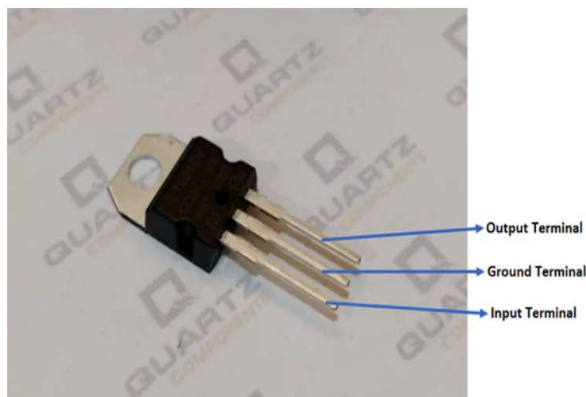
Abstract: Voltage regulators have been widely used in many electronic devices such as charger, CPU and TV, etc.

Voltage regulators are used to provide a stable power supply to the microprocessor. Voltage regulators are found nearly in all electronic systems. They are essential for delivering power from an energy source to integrated circuits at their respective and desired voltage levels. Now a day, there is a demand for smaller portable devices, so the size of voltage regulator also scaled down. Moreover, continues scaling need better power management for microprocessor design.

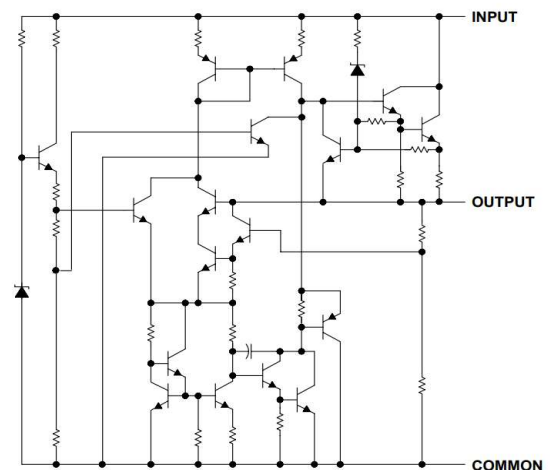
Circuit design problem statement :

Basically, here I try to simulate a Voltage Regulator circuit with the help of IC7805 in eSim software , which is already done by C. M. Arun Kumar and P. C. Mukesh Kumar in another software , named Multisim.

In this project I try to create the sub circuit of IC7805 and then simulate the voltage regulator circuit . LM7805 is one of the most commonly used Positive Regulator in Electronic circuits to lower down the voltage from the higher input voltage and it provides a regulated output of +5V with 2% regulation.



PRODUCT DESCRIPTION of IC7805



SCHEMATIC of IC7805

The LM7805 is a linear voltage regulator, specifically a positive voltage regulator. It regulates a higher input voltage down to a fixed output voltage of +5 volts.

The output voltage of the LM7805 is fixed at +5 volts. This makes it suitable for providing a stable power supply to digital circuits, microcontrollers, sensors, and other components that require a +5V DC power source.

Conclusion:

So, this 1-page synopsis describing the circuit design problem statement of a voltage regulator using IC7805.

Reference paper:

RESEARCH ARTICLE - AN EXPERIMENTAL AND SIMULATION ANALYSIS OF VOLTAGE REGULATOR USING THE MULTISIM.

Author - 1. C. M. Arunkumar from University College of Engineering, Pattukkottai.

2. P. C. Mukesh Kumar from University College of Engineering, Dindigul.

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