

Fixed and Adjustable Voltage Regulators

Task 1: Use the LM 723 voltage regulator to construct a circuit that uses the +12 V supply as its input and provides a stable output of +8 V with an accuracy of 5%. Make sure your circuit limits its output current to 40 mA. Another design consideration should be that the stability of your supply voltage under varying load conditions is better than 0.5% for loads ranging from no load to 80% of maximum. Document how you arrived at your design and provide tests that will demonstrate compliance with all the above design criteria to a critical TA.

Task 2: Use the LM 78 LO6 and LM 79 LO6 voltage regulators to build ± 6 V supplies at the very end of your breadboard. **Note that the connections on these two ICs are different from one another!** Test and document your supplies carefully, as you will want to have them available or be able to rebuild them quickly for future use in the lab. Use a scope to check for noise on your output; eliminate noise if you find it. Do not leave your voltage regulators powered on when not in use.