



Single 12V Power Supply

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Assembly

First a tip on soldering. Use a 40 - 60 Watt soldering iron. The tip must be clean and shiny and free of debris. Heat up the component as well as the pcb at the same time while applying the solder wire. A good solder joint is smooth and shiny, not lumpy and dull. Fit all of the components as indicated. Note that D1, C1 and Led1 need to be connected the right way around. Use the two 3mm bolts to secure the heatsink to the pcb and the regulator to the heatsink. Connect the 15A plugtop to the primary of the transformer via the 2-way strip connector. Connect the secondary of the transformer to the 12V AC terminal block on the Pcb.

Operation

The 14 Volts AC from the transformer is rectified by BR1 and smoothed by C1. A visual indication of power is done with Led1 lighting up. Since here is a constant voltage between the Out and Adjust pins, there will be a constant current flowing through R2 and VR1 to (negative) ground. When varying RV1, the current will therefore remain the same, which means that the voltage on the adjust terminal will vary. R3 is a dummy load resistor, since regulators tend to give weird voltages with no load. D1 prevents an external voltage feeding back into the regulator and causing damage. F1 will protect the circuit in overload conditions. Note that when required to deliver low voltages at high currents, the regulator will heat up significantly and may shut down temporarily.

