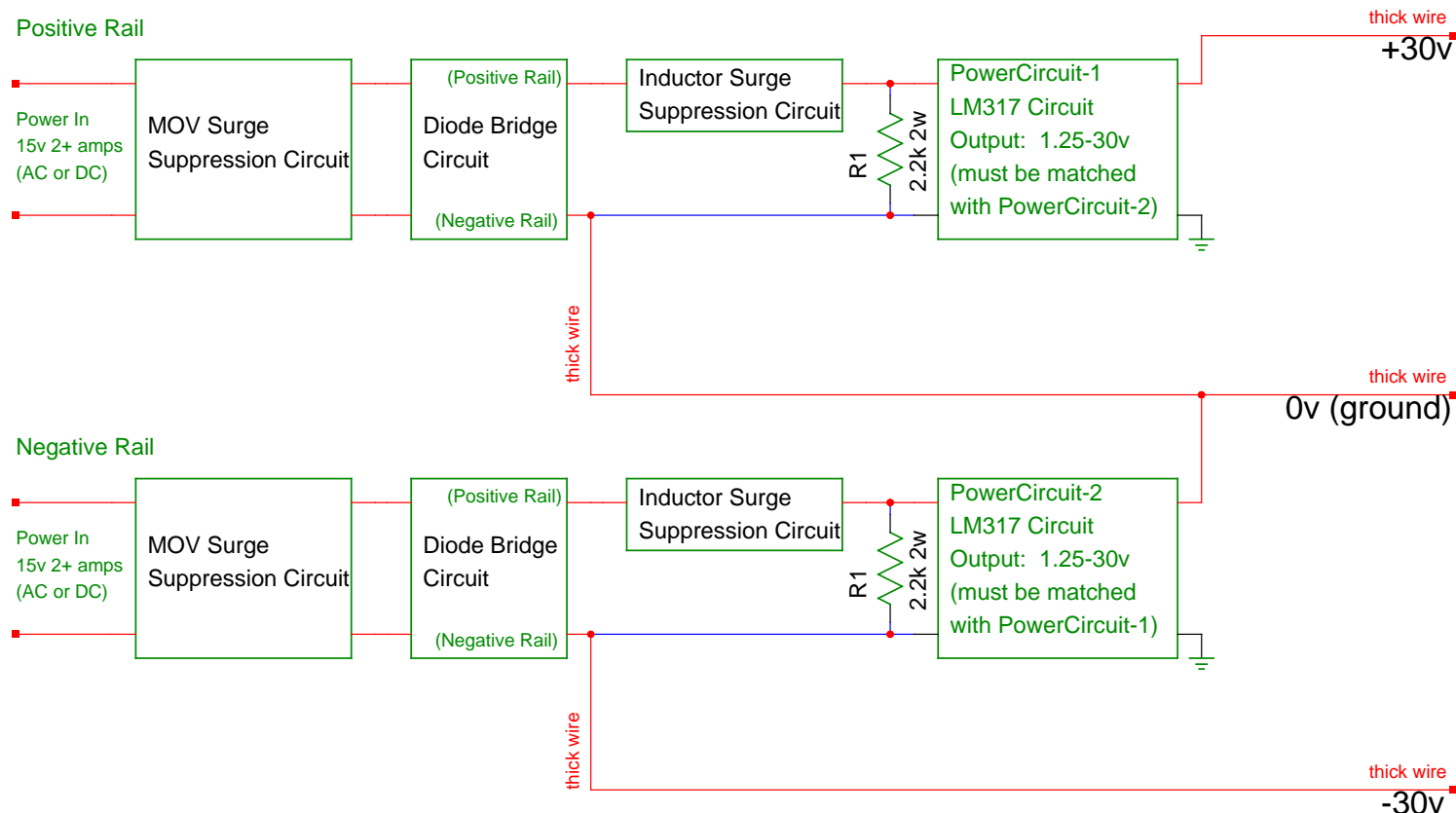


Power Supply -- Dual Rail -- Series

2007-03-13



"Power In" MUST be independent secondaries from a transformer or 2 different wall warts/floor frogs.

Try 2 different wall sockets for increased amps with the boosted model, (mje2955t PNP 10a 60v).

The bigger the VA capacity for "Power In", the cleaner the supply. (this example used 15v in per rail for 30v series summed)

For higher voltages and amps, increase the Diode Bridge capacitors to 10mF+. R1 provides a safe discharge for the increased capacitor size.

Be sure to increase the size of the MOV's, current rated diodes, and protection inductors, too.

USE THICK WIRE (current sized accordingly, shown in deep red) from the Diode Bridge, to the voltage regulator, and out to the application.

Thick wires are shown on the Positive Rail, 0v/Ground Rail, and Negative Rail. A cut up extension cord is often a good source for this.

The thick wire placement exploits some of the "magic" of circuit design where the filtering components are low current and out of the way.

This "magic" makes use of star grounding topology and avoids high return currents through low current sections.

For high current versions (power amplifiers), it is probably better to leave out the inductor filtering section.

Inductors in front of large current will current limit the rest of the circuit during heavy draw times (usually bad for audio).

Once this circuit is built, voltage settings should be triple checked using a good meter before hooking it up to the application.

Audio Chip Amps:

Use 1-2mF (electrolytic) with 0.1uF (MKT) capacitors on the chips power supply pins and add 1ohm+0.1uF snubbers.

Can also use 3.3uF 100v MKT capcitors from V+ to V- on the chip amp.