MOFI- Fully Discrete Parallel A Regulated Power Supply (Dual Rail±5V ~±80V) PCB

Product sellpoints

- **High power output:** Capable of supplying up to ±80V with onboard heatsinks; higher currents with external heatsinks.
- **Single-pass, series regulator design:** Features a single-pass, series regulator for efficient power delivery.
- **Mofi All-discrete topology:** Employs a fully discrete power rail PCB with no ICs for low noise and high PSRR.
- **Advanced error amplifier:** Integrates a long-tailed pair differential amplifier with a constant current source for stable operation.
- **Wide voltage range:** Offers typical output voltages of ±5V, ±9V, ±10V, suitable for diverse audio equipment.

All-discrete topology
Single-pass, series regulator design.
No IC (integrated circuits) are used.
Low noise, high PSRR.

A long-tailed pair differential amplifier with current mirror and constant current source forms the first stage of the error amplifier.

The second stage is the voltage amplification stage (VAS), also with constant current source load.

Onboard heatsinks can be used which would allow to supply up to 0.3A continuous

More sustained currents are possible by using larger, offboard heatsinks.

Typical output voltages are ±5V, ±9V, ±10V, ±12V, ±15V, ±18V, ±24V, ±27V, ±30V , ±36V. ±48V,±60V,or±80V

Typical Application
Input voltage VAC= (Output voltage +8)/1.414

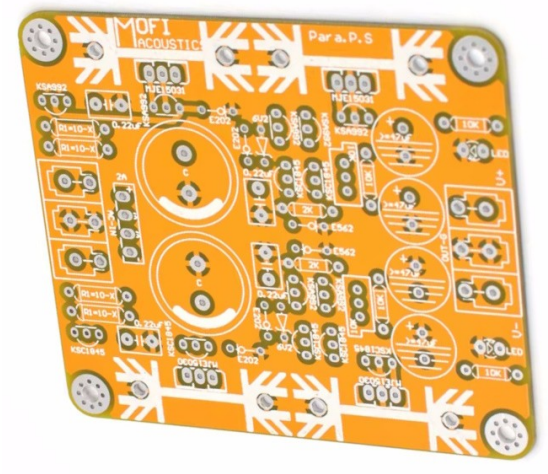
For example:
±12VDC-OUT,
Input voltage VAC= (12+8)/1.414=14.14VAC, Please choose Dual 15VAC

±5VDC-OUT Dual 9VAC-IN
±9VD-COUT Dual 12VAC-IN
±12VDC-OUT Dual 15VAC-IN
±15VDC-OUT Dual 18VAC-IN
±18VDC-OUT Dual 18VAC-IN
±24VDC-OUT Dual 22-24VAC-IN
±30VDC-OUT Dual 26-28VAC-IN
±36VDC-OUT Dual 32VAC-IN
±48VDC-OUT Dual 40VAC-IN
±60VDC-OUT Dual 48VAC-IN
±80VDC-OUT Dual 62VAC-IN

Quiescent current setting
Quiescent current= Load current*1.4
R1=0.65/ Quiescent current

For example:
Load current=0.09A;
Quiescent current=0.09*1.4=0.126
R1=0.65/0.126=5.1R
There are two R1 position on the PCB, you can choose to install two 10R or one 5R resistor.

Do not short the output terminal to discharge capacitor, otherwise it will damage the power board.



Instructions

Since the PCB holes are plated through, you only need to solder the parts from the bottom of the board. Do not drill or enlarge the holes because that would damage the through-plating.

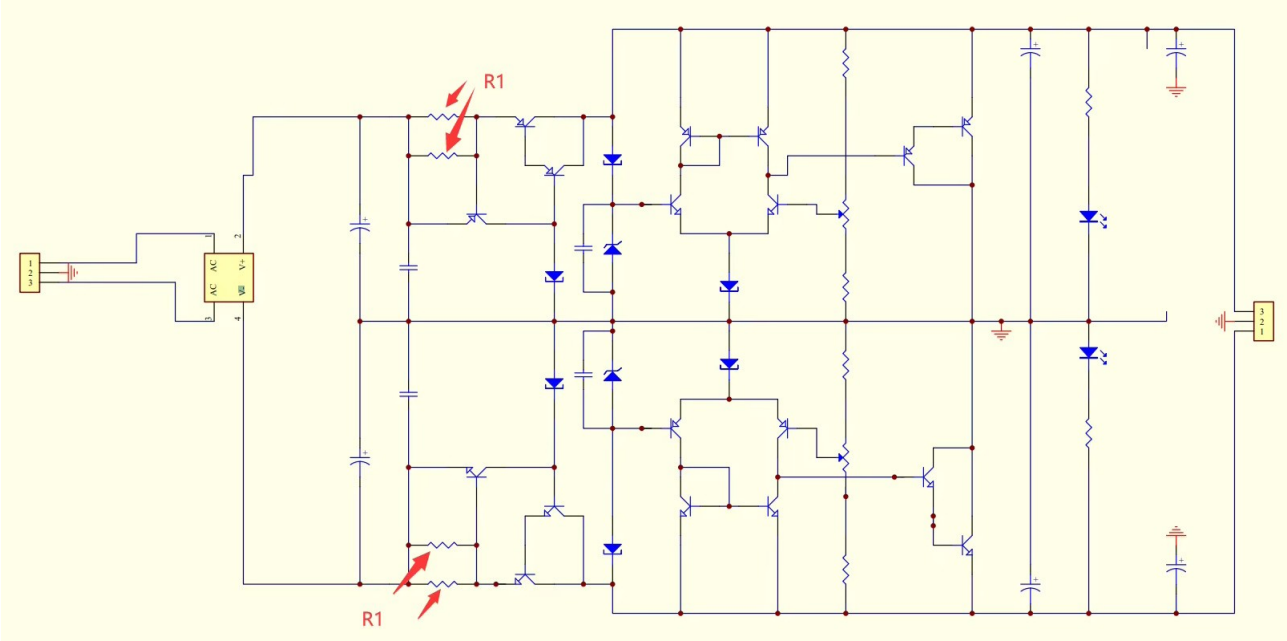
Clean both sides of the blank PCB with paper towel and isopropyl alcohol or electronics flux remover, then solder the components to the board, starting with the lowest profile parts. This means the resistors and zener diode. Then solder the small capacitors, small transistors, followed by the larger capacitors.

Make sure the correct part goes into each position on the circuit board. Measure each resistor with your multimeter to ensure it's the proper value.

Pay attention to the polarity of electrolytic capacitors, diodes, , transistors as well as the orientation.

Clean up the solder flux residue from the board with isopropyl alcohol (or electronics flux remover) and a brush.

Inspect all solder connections carefully, using a magnifying glass, to make sure there are no solder bridges or cold solder joints. Use a multimeter in ohms scale to check for short circuits.



Material: High-Quality PCB

Compatibility: Ideal for amplifiers, digital-to-analog converters (DACs), and professional audio equipmentn

Design: All-discrete topology with a single-pass, series regulator designn

Noise: Low noise with high PSRRnPower Capacity: Up to 0.3A continuous, with the potential for higher currents with external heatsinksn

Typical Output Voltages: ±5V, ±9V, ±10V, and ±80V

Optimized Performance and Precision

The MOFI- Fully Discrete Parallel A Regulated Power Supply (Dual Rail±5V ~ ±80V) PCB is the epitome of reliability and excellence in audio and video equipment.

Built with a fully discrete topology and a single-pass, series regulator design, this power supply ensures low noise and a high power supply rejection ratio (PSRR).

The inclusion of a long-tailed pair differential amplifier with a constant current source in the first stage and a voltage amplification stage with a constant current source load in the second stage guarantees stability and precision in voltage regulation.

Versatile Application and Design

Whether you're an audiophile looking to upgrade your amplifier or a professional in the audio-video industry, the MOFI PCB power rail is a versatile component that caters to a variety of equipment.

With typical output voltages ranging from ±5V to ±80V, this power supply is designed to be compatible with a range of audio and video equipment, including amplifiers, DACs, and professional audio gear.

Its compact size and lightweight design make it easy to integrate into existing setups, while the inclusion of heatsinks ensures efficient heat dissipation, allowing for higher sustained currents..

User-Friendly Assembly and Support

Assembling the MOFI- Fully Discrete Parallel A Regulated Power Supply is an experience that requires some technical expertise. However, the kit does not include components, which means you have the freedom to select the components that best suit your needs.