

Dual 12c18 ic supply – mounting instructions

Thanks for buying this power supply pcb or kit! Now the fun of mounting starts. Make sure you read the complete instructions before you start mounting. Assembling can be done by an experienced hobbyist in about one hour.

List of components

Please check if all is complete. The kit should have the following components, if you bought the pcb, these components are suggested (or choose your own):

Qty	Value	Device	Parts
1		3xAK500	15V
19		Faston-4.8mm	RECT+, RECT-, RECT0, X1, X2, X3, X4, X5, X6, X7, X8, X9, X10, X11, X12, X13, X14, X15, X16
2	2k2	R-1W	R3, R4
1	15V	7815	IC2
1	15V	7915	IC1
2	20V	Z-diode-1.3W	D1, D2
6	100n	C-multi	C5, C6, C15, C16, C21, C22
2	220u/25	C-elec-3.5/8	C10, C11
2	470u/35	C-elec-3.5/10	C4, C17
12	2200uF/63	C-elec-7.5/18	C1, C2, C3, C7, C8, C9, C12, C13, C14, C18, C19, C20
4	LSP10	1mm pcb pin	GND, LSP0_1, RAIL+, RAIL-
1	MJE2955	Transistor TO-220	Q1
1	MJE3055	Transistor TO-220	Q2

Tools

Required:

- ✓ Soldering iron and solder
- ✓ Multi-meter (voltage and resistance)
- ✓ Side-cutting pliers

Recommended:

- ✓ Adjustable dual power supply

Mounting

The easiest way of mounting is by starting with the components with the lowest height and build up the PCB in steps, where components of the same height are fitted and soldered in each step. So, solder in this order: resistors, zener diodes, multilayer capacitors, connectors, transistors, regulators, electrolytic capacitors.

Always double check all components before you solder them (especially the ones that are polarity dependent, diodes, electrolytic capacitors, etc), as it is difficult to remove them after soldering, much more time consuming and may break components or PCB.

Testing

NOTE: depending on the input voltage and current consumption, Q1 and Q2 might need to be connected to a heatsink!

If you have an adjustable bench supply, testing is quite easy. Connect the bench supply between RECT0 and RECT+, increase voltage to 25V and measure the following voltages: RAIL+ should be 25V, between Q2 and IC2 voltage should be about 19.3V, at output should be 15V.

As the supply is symmetrical, repeat this procedure, by connecting supply between RECT- and RECT0

Schematic

