

## Capacitance Multiplier Power Supply PSU4 Rev B

### **Bill of Materials**

28 August, 2013

<u>Reference Name</u>	<u>Qty</u>	<u>Component/ Value</u>	<u>Package</u>	<u>Description</u>
Q1	1	IRF5305	TO-220	MOSFET, P-Chnl, 55V
Q2	1	IRLZ34N	TO-220	MOSFET, N-Chnl, 55V
Q3, Q5	2	BC556B	TO-92	BJT, PNP, 65V
Q4, Q6	2	BC546B	TO-92	BJT, NPN, 65V
Q7, Q9	2	ZVN2106A	TO-92	MOSFET, N-Channel, 60V
Q8, Q10	2	ZVP2106A	TO-92	MOSFET, P-Channel, 60V
Q11, Q12	2	J112	TO-92	J-FET, N-Channel, 35V (1)
D1, D2, D3, D4	4	MBR10100	TO-220AC	Rect. Diode, Schottky 10A, 100V (2) (for 33V max transformer voltage)
LED1, LED2	2	LED, 20mA	T-1	LED 3 mm short lens, 20mA (1)
C1, C2	2	10,000uF	Radial, Lg Can	35 mm D, 10 mm snap-in, or 12.5 mm
C3, C4	2	1uF	Box, 5 mm	Film Capacitor, 63V
C5, C6, C7, C8	4	0.1uF	Box, 5 mm	Film Capacitor, 63V
C9, C10	2	4700uF	Radial, Lg Can	25 mm D, 10 mm snap-in, or 12.5 mm
C11, C12	2	100nF	Radial, 10 mm	Film Capacitor, 250V (Optional)
VR1, VR2	2	100K	3/8", vertical	Multi-turn Trimmer/Pot
R1, R2, R3, R4	4	470K	Axial	Resistor, 1/4W, 1%
R5, R6	2	8R2	Axial	Resistor, 1/4W, 1%
R7, R8	2	100K	Axial	Resistor, 1/4W, 1%
R9, R10	2	180K	Axial	Resistor, 1/4W, 1%
R11, R12	2	470R	Axial	Resistor, 1/4W, 1%
R13, R14	2	3K3	Axial	Resistor, 1/4W, 1%
AC1-4	4	FASTON	FASTON	TAB Connector, 1/4" (6.35mm)
DC+, DC-, G1, G2	4	FASTON	FASTON	TAB Connector, 1/4", Optional
Vpos1-2, Vneg1-2	4	FASTON	FASTON	TAB Connector, 1/4" (6.35mm)
G3-6	4	FASTON	FASTON	TAB Connector, 1/4" (6.35mm) ex: TE Connectivity/AMP 1217136-1
FS1, FS2	2	3~5A	5 x 20 mm	Fuse, Fast Blow, ex: Littelfuse 0235005.HXP
*	2	Fuse Holder	5 x 20 mm	Fuse Holder, w. cover, ex: Littelfuse 64600001003, 64800001009
*	2	11C/W	34.9 x 12.7mm	Heatsink, extruded w. fins, ex: Aavid Thermalloy 513102B02500G
*	4	22C/W	10 x 15 mm	Heatsink, extruded or U-channel, (3) ex: Aavid Thermalloy 577202B00000G
*	6	Insulator	13 x 19 mm	For TO-220, Silicone or Mica, (3) ex: Laird A15037003
*	6	Mounting Kit	3 mm	M3 screw and shoulder washer (3)

1) Ships with circuit board

2) Higher voltage alternative: MSR860/MSRF860 or any similar "Soft" Rectifier Diode

3) Usually available on ebay etc. at very low cost

\* Not shown as separate component on the schematic