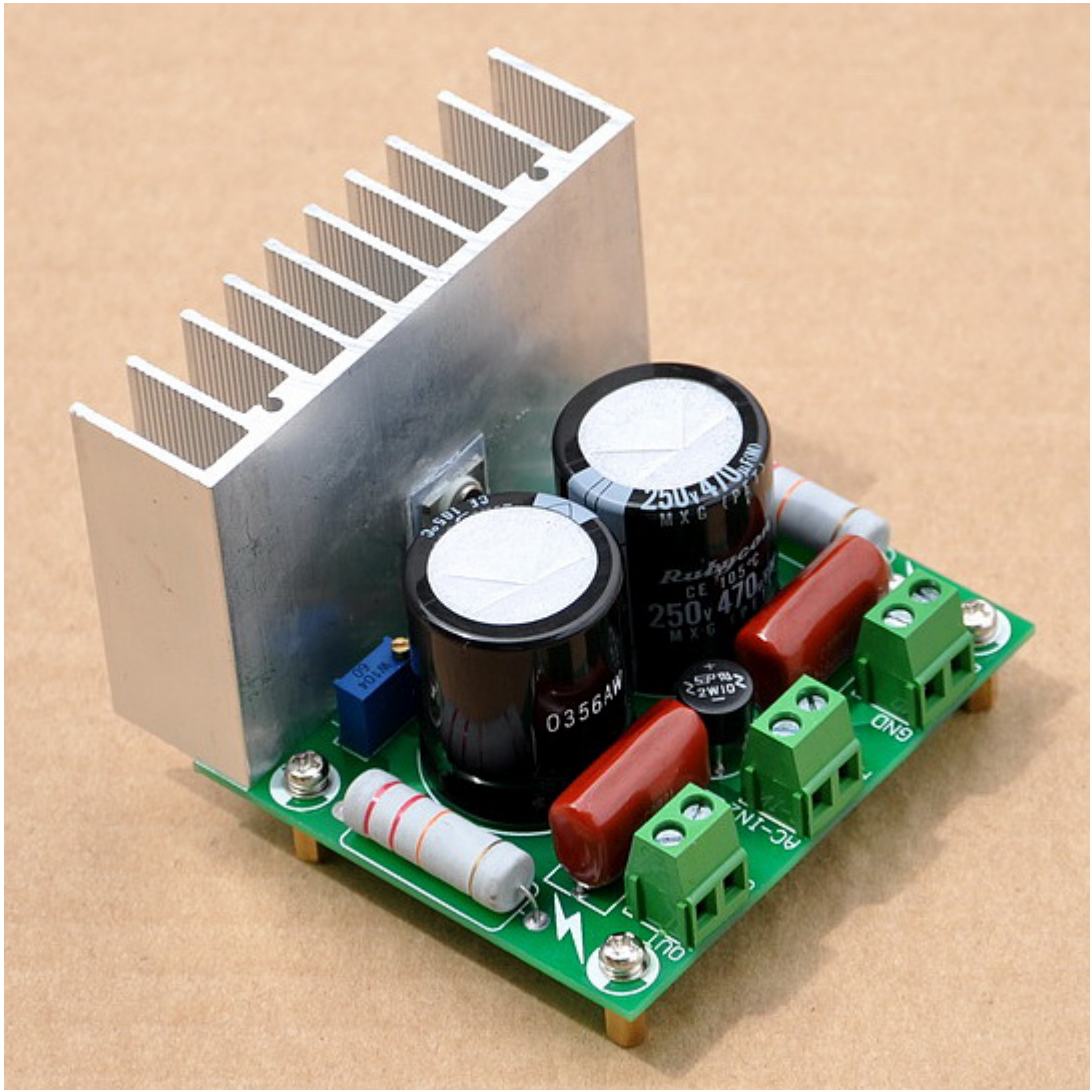


AudioWind Electronics-Salon

SPECIFICATION

Model: SP-4



Caution:

1. If the input DC voltage greater than 50V, or AC input greater than 35V, may be life-threatening, if you aren't electronic technician, do not use this module.
2. Connected Power before, please read the TL783 datasheet, if you do not understand, do not use this module.
TI datasheet website: <http://focus.ti.com/lit/ds/symlink/tl783.pdf>
3. Any questions, please send email to us: jianglily2005@gmail.com

Specifications:

Maximum Input Voltage	DC maximum input 150V DC *1
	AC maximum input 105V AC *1
DC Output Adjustable Range	2V to 120V
Initial Set Output Voltage	50V
Output Current	15 mA to 700mA *2
Module Size	80 x 76.2 x 55 mm (L x W x H)
	3.15 x 3 x 2.2 inch (L x W x H)
Heat-Sink Size	22 x 50 x 76.2 mm
Heat-Sink Thermal Resistance	6 Degrees Celsius / Watt *3

Other electrical specifications, please read the TL783 datasheet.

Note:

*1. Input-to-output dropout voltage must be less than **125V DC**, if DC input greater than **127V DC**, or AC input **> 90V AC**, please calculate the minimum allowable output voltage:

For DC Input: **$V_{output} > DCV_{input} - 125$**

For AC Input: **$V_{output} > (ACV_{input} \times 1.4) - 125$**

*2. Minimum output current must be greater than **15 mA**. otherwise the output voltage is not correct.

*3. If the IC power consumption is greater than **15 watts**, please replace the larger heat sink, IC power consumption calculate formula:

For DC Input: **$(DCV_{input} - V_{output}) \times I_{output} < 15 \text{ Watts}$**

For AC Input: **$((ACV_{input} \times 1.4) - V_{output}) \times I_{output} < 15 \text{ Watts}$**

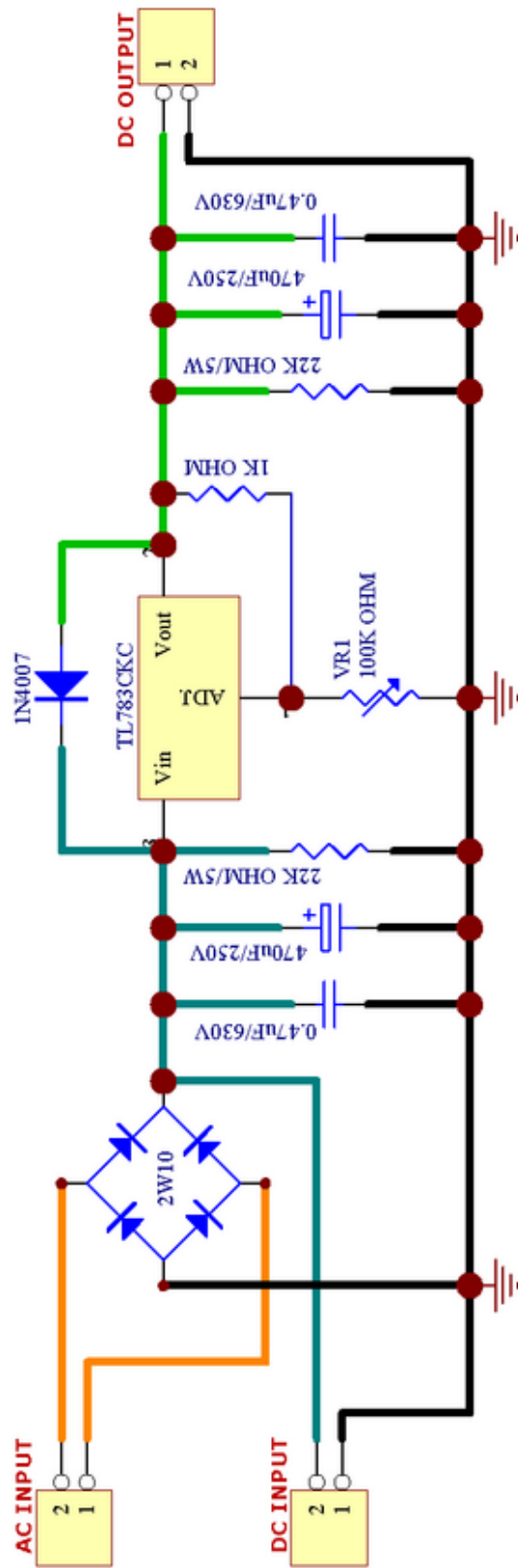
DCVinput: DC input voltage.

ACVinput: AC input voltage.

Ioutput: Output current.

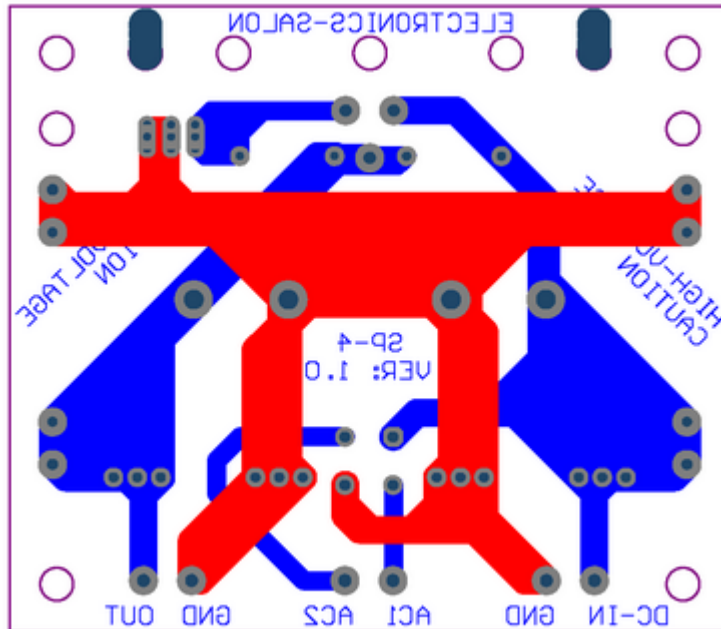
Voutput: Output Voltage.

Schematic:

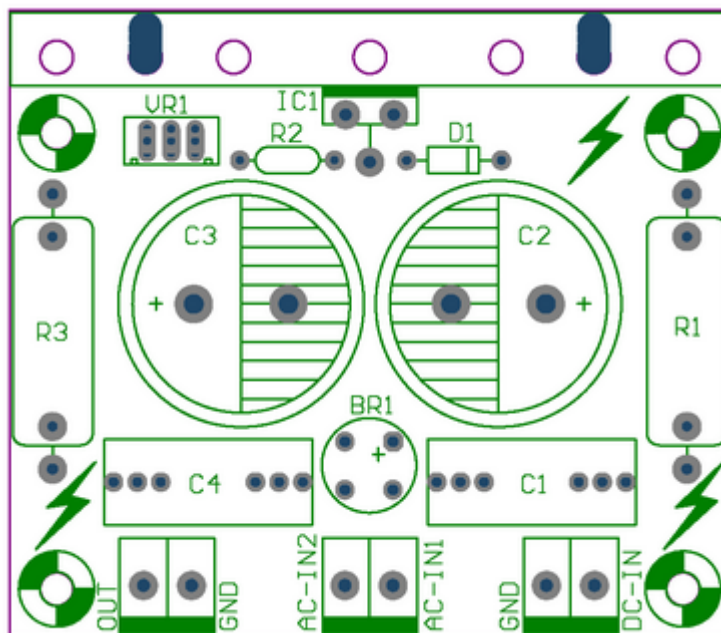


PCB:

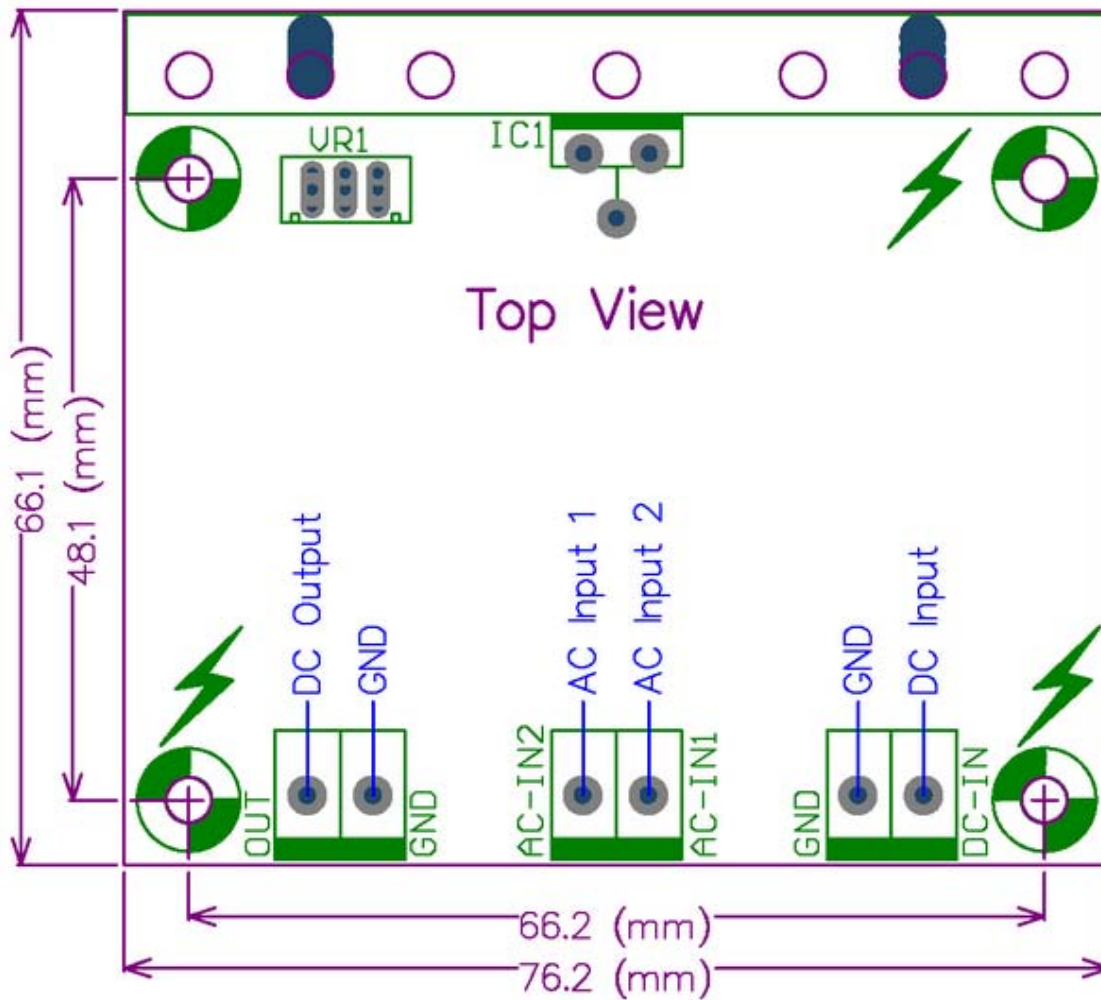
Top and Bottom layer



Top Overlay



PCB size and wiring diagram:



Bill of Material:

Position	Value	Depiction
IC1	TL783CKC	Texas-Instruments high voltage regulator IC.
C1, C4	0.47UF 630V	Metallized Polypropylene Film Capacitors.
C2, C3	470UF 250V	Rubycon MXG series capacitors, 105 Degrees Celsius.
R1, R3	22K OHM,5 Watts	Metal Oxide Film Resistors
R2	1K OHM, 1/4 Watt	Carbon Film Resistors
D1	1N4007	1 Amp 1KV Diodes
VR1	100K OHM	3296 Type adjustable Resistor.
BR1	2W10	2 Amps 1KV bridge rectifier.
CN1, CN2, CN3	2 Pin, Pitch 5mm.	High quality terminal blocks.
Screw 5 PCS	M3x8mm	
PCB Stand-off 4 PCS	Height 10mm. Female to Female.	Brass, Threaded.
Heat-sink	76x22x50mm	Aluminum heat sink,
TO-220 IC bushing		
TO-220 Silicon Insulator		