

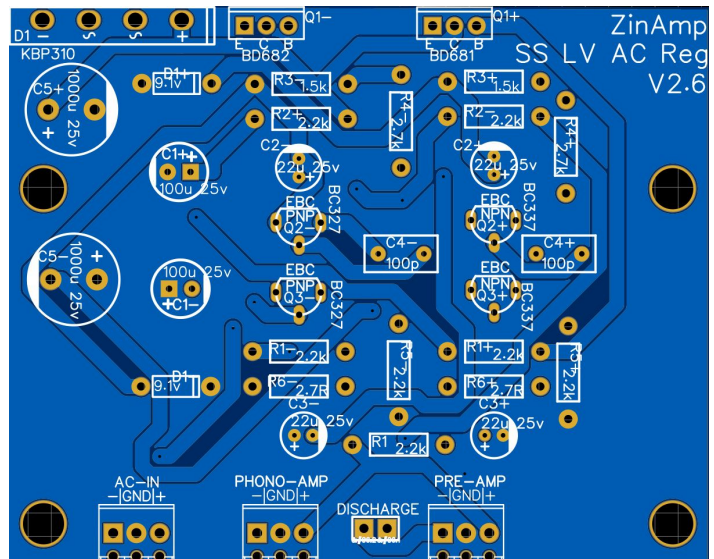
Application & Purpose:

Active linear regulator for DC supply voltages to solid state phono and pre-amps running at -21v/+21 v

Supplied by an 18-0-18v AC transformer (20VA).

***WARNING:** High DC voltage device. Care must be taken to avoid fatal electric shock.*

Note, a DC version of this module is available for integrated amps running a -48v/+48v power amp supply. The DC module can be fed from this supply, negating the need for a separate transformer. Do not use the DC module with a -56v/+56v supply. Use this AC module with a separate transformer.



Bare PCB

Specification:

PCB Dimensions	77mm x 61mm x 1.6mm
Voltage Input	18-0-18v AC transformer (20VA).
Output Current	max 400mA - typical idle 150mA
Output Devices	BD 681 - NPN - darlington BD 682 - PNP - darlington
Ripple	0.5-5mv - depending on load
Output Voltage	-21v/+21v

Details:

Power supply for running ZinAmp Class-A Solid State Phono and Pre-Amplifiers where there is no power amplifier supply or the power amp supply is greater than -48v/+48v.

Output devices are power darlingtontons to ensure amplifier linearity with all transient signal demands. Linear regulation is achieved with a feedback circuit that eliminates ripple and ensures rails do not 'dip' with large transient signals e.g. bass notes.

A heatsink is required as a moderate amount of heat is dissipated from the output darlington's. The heatsinks supplied with your ZinAmp are ample for this. Running this supply with no heatsink will result in device failure within a few seconds. Secure to the heatsink and isolate the backs of the output devices from the metal-wall of the chassis if the output devices have metal backs. The output devices specced here have metal backs, so isolation pads are necessary. If you substitute these devices for ones of a similar spec and they don't have metal backs, you can omit the isolators. Exposing metal backs of the output devices to the metal chassis will result in a short circuit and must be avoided.

Outputs and Voltages:

- Phono Amp - (-21/+21v DC)
- Pre-amp (-21/+21v DC)

Safety:

WARNING: High DC voltage device. Care must be taken to avoid fatal electric shock.

Always discharge the supply before removing and/or handling. A discharge terminal is provided that discharges the capacitors through a resistor without sparking. Switch off the amplifier, remove the AC power cord and place a screwdriver across the discharge terminals for 10 seconds. Test the voltage with a meter - if less than 2v, it is safe to handle. *NEVER attempt to discharge the supply with AC power connected, EVER!! You will blow the discharge resistor and probably damage the filter capacitors and output darlington's*

Parts List:

Designator	Value/Spec	Quantity	Manufacturer	Manufacturer Part	RS Part
LED	- +	1	RS-PRO	790-1098	790-1098
DC-IN	- HUB +	3	RS-PRO	790-1092	790-1092
R3+, R3-	1.5k	2	Vishay	MRS25000C1501FCT00	683-3219
C4+,C4-	100p	2	Wima	FKP2/100/100/5	484-1978
C1+,C1-	100u 25v	2	Nichicon	NRSZ101M25V6.3X11F	737-4159
R2	15k	1	Vishay	MRS25000C1502FCT00	683-3055
R5+,R5-,R2+,R2-,R1+,R1-,R1	2.2k	7	Vishay	MRS25000C2201FCT00	683-3449
R4+,R4-	2.7k	2	TE Connectivity	LR1F2K7	125-1161
R6-,R6+	2.7R	2	Vishay	PR01000102708JA100	683-5433
C3+,C3-,C1+,C1-	22u 25v	2	Nichicon	UPW1C220MDD	715-2524
R1+,R1-	240R	2	TE Connectivity	LR1F240R	148-354
R2+,R2-	3.9k	2	Vishay	MRS25000C3901FCT00	683-3641
D1-,D1+	9.1v	2	Nexperia	BZX79-C9V1,113	544-4455
Q3-,Q2-	BC327	2	On Semi	BC32716BU	761-9819

Q2+,Q3+	BC337	2	On Semi	BC33740BU	761-3943
DISCHARGE	DISCHARGE	1	RS-PRO	251-8086	251-8086
D1	KBP310	1	HY	GBU2510	923-5472

Parts available from [RS Online](#). Also try [Farnell](#), [Mouser](#) and other online suppliers.

Parts from different manufacturers can be substituted where spec is sufficient

Supplier trading names may differ by country.