

Re: Groundplane in poweramplifier PCB design

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On Wednesday 19 April 2006 05:00, Ken Smith wrote:

I'd worry a lot more about a reactive load.

What about a reactive load? Isn't any speaker a reactive load?

Try this idea .. Simplified circuit Ascii ART:

```
!
!/
-----+---+-----!
!! !e Q5+Q7
Q9 \!
!!-----+
! e! NPN !
!! Q98 [R13]
!!!
!! +----- load
!!!
!! [R14]
! e! PNP !
!!-----+
! /!
!! Q99 !/e
-----+---+-----! Q6+Q8
!\
!
```

Assume that Q5+Q7 are passing enough in R13 to make 2 diode drops of current. Both Q98 and Q99 will be biased on. Q99 will be super-saturated so its base current rating has to be enough.

Now the remaining problem is that Q4 is not current limited. It needs a resistor in its emitter and R6 needs to be a larger value + a diode. You can make it so that the collector current of Q4 is nearly a constant times the collector current of Q1.

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The whole R9,R10 + C5 network could be replaced by another constant current circuit using D1 voltage.

As you can read in my reply to Ban's message, the absence of a current limiter is intentional. I also don't plan to include one. In all the time I have used the amp, and all the others that where built, it has not been necessary.

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