

Re: Transistors

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On a sunny day (Mon, 19 Nov 2007 08:42:09 -0800 (PST)) it happened Winfield Hill <hill@xxxxxxxxxxxx> wrote in <869fdae0-823c-4d47-b987-bab35c0b9c4b@xx>:

This is with lower emitter io resistors:
ftp://panteltje.com/pub/amp1_ac2.jpg

Small-signal spice tests (frequency sweeps) of power-amplifier circuits like that, at high-frequencies, are close to meaningless – useful for no-signal loop stability perhaps, but certainly not for evaluating how an amplifier can do at delivering power at high frequencies. You can try transient full-power tests with spice, but I'd want to verify the component models on the bench before giving it much credence. And of course, when the failure mode is thermal, and your spice model isn't set up to handle self-heating, well... What you can do with spice, after you've got models you can trust, is to evaluate the continuing emitter current in a class AB transistor after it's supposed to have gone off or nearly off each cycle. Doing this will help teach you what's badly wrong with that circuit for high-frequency high-power use.

OK, you do have a point, and I have not build this one with these transistors (that would be the real test, I trust spice more then in the past, but reality rules), but this begs the question to *you*:
How would you do it?
You mentioned class A, and this was an attempt to go towards class A from my side (decreasing the emittor resistors decreases the phase shift).
I am curious how you would solve the 20V pp 10MHz say 50 Ohm load and open drive?

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