Subject: Re: CCS Failure Possibilities
Posted by Damir on Thu, 02 Mar 2006 07:12:22 GMT
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Huh, MB... : "entire B+ through your expensive 300b", "causing a mini bomb in your amp", "remaining resister could flame on and start a fire in any CCS loaded tube amp", "potentially dangerous issue", "I had to always stay in the room whenever a CCS amp is on"...Reading this, someone could think that there`re dangerous terrorists here... Everything can be destroyed and can be dangerous. High voltage can kill you. You can burn your finger on soldering iron. Loud music can damage your hearing.Drain to Source and Drain to Gate max. specifications of DN2540N5 is 400V. We used B+=440V, but voltage drop through the CCS (6C45Pi example) is 440-150=290V. Counting the negative peak of the driver, 290+75 = 365V. Yes, it is safer to lower the B+ to 390V with 6C45Pi.Another "horror" possibility is that somehow driver tube shorts, and that we have the ground on the CCS output. Or for some reason, CCS shorts and we have 440V on its output - then driver tube would "pull" large current, especially if biased with LEDs or Zener "under" cathode.We can use, non-flammable (say metal-film) resistor of, say, 3k3/0,5W between the CCS and the tube. It would limit the current, and in extreme cases burn out (without flames), (hopefully:-) protecting the tube. I`ll try it these days - with 9mA current it dissipates 0,27W, and max. dissipation of 0,5W reaches with 12,3mA through it.300B output tube can`t be damaged in those cases - it is connected to the driver/CCS through the big capacitor, in my case Mundorf Supreme, 4µ7/800V.Adding "back-to-back" Zener G-S protection is another idea.For now, I used DN2540N5 for about a month, few hours a day, with numerous in-out switching and other torturing with no problems and good sound. Yes, I burned one mosfet accidentaly shorting it with unisolated wire. No big deal