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Re: HP8510A IF mixer schematic

Tom Lee

Jun 22 (https://groups.io/g/HP-Agilent-Keysight-equipment/message/127375)

Hi Tom,

That transistor seems to operate well within its SOA in this circuit. Is it near some component that runs very hot? If not, either HP got a bad batch of PNPs, or there's some less obvious problem with the circuit. If C12 shorts, for example, the PNP's emitter current might be near the 50mA max value given in the Fairchild datasheet (which disagrees with Central Semi's datasheet). There would also be a turn-on spike of that value.

Sustained overcurrents can cause an increase in base resistance over time. That will decrease fmax (but not ft). But if decreased hf gain is blamed on reduced ft without actually measuring ft, maybe overcurrents are the cause. Just guessing.

--Tom

--
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On 6/22/2022 09:29, tom_iphi via groups.io wrote:

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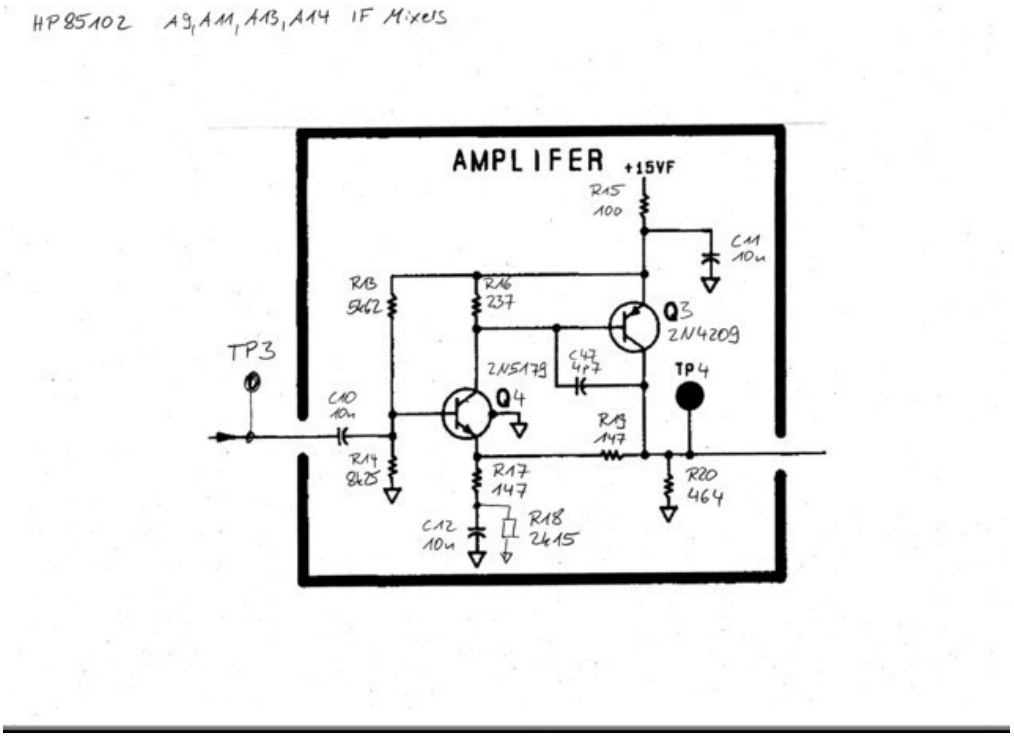
Hi,

maybe it is of help for someone. Below is the schematic of the dead buffer amp in question.
It is Q3 (PNP) that has died on two boards. And another PNP transistor has died in a similar buffer.
The PNPs take the biggest part of the dissipation (about 100mW).

Best regards,
Tom DG8SAQ



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