

# PASS

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I have encountered a design flaw in the A75 amplifier which can result in damage to the front end transistors. Under conditions of hard clipping, the gate to source voltages of Q9 and Q10 can experience transients which exceed the manufacturer's recommendations.

During clipping, Q3 and Q6 can be seen to shut off briefly, and this leaves the source connections of Q9 and Q10 open, allowing the leakage current through Q9 and Q10 to briefly pull the source voltage toward the drain's potential.

In a small percentage of the amplifiers this transient will punch through the gate oxide of the transistors and result in failure.

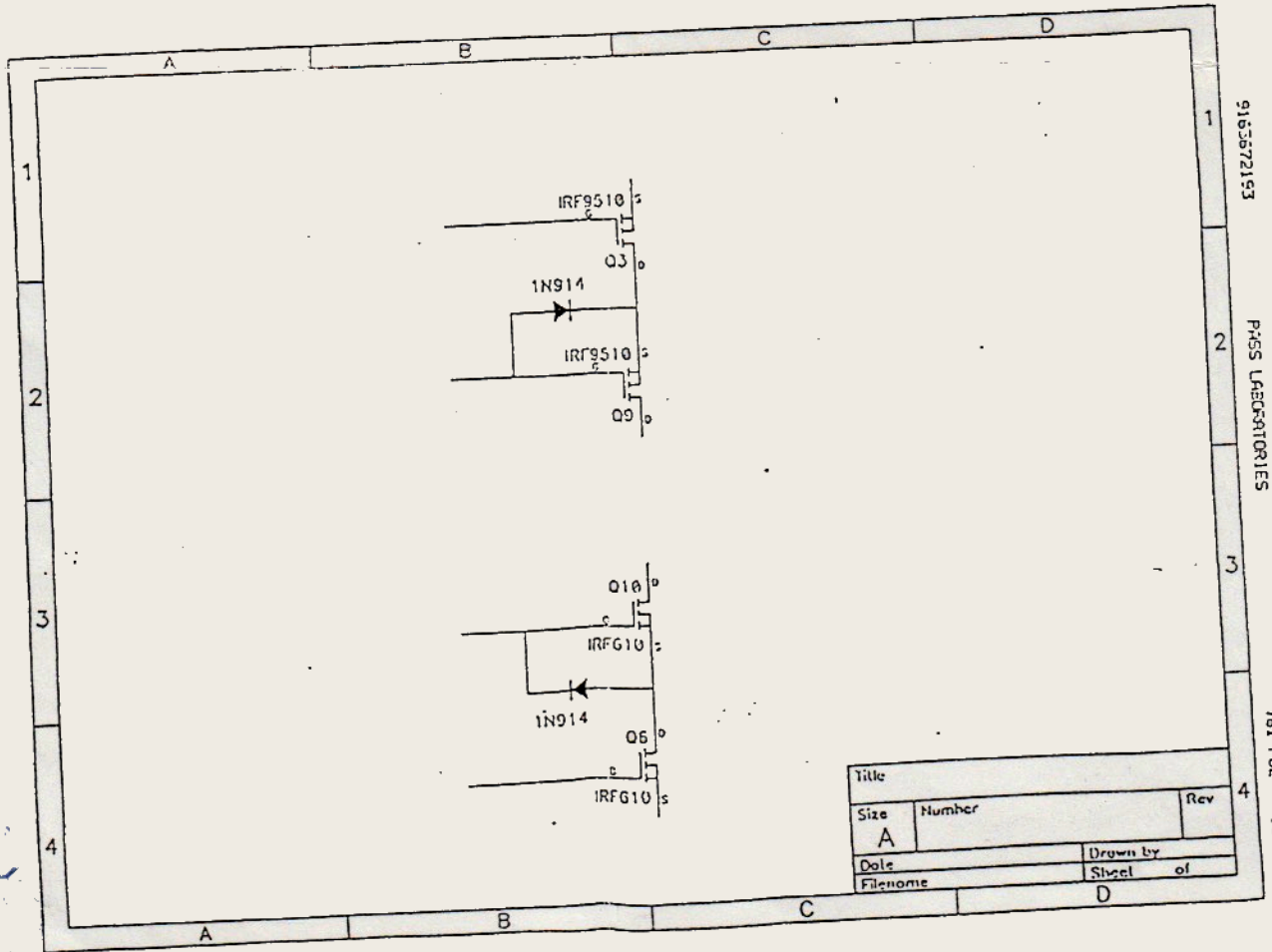
To prevent this, signal diodes such as 1N914 or 1N4148 must be installed between the gate to source connection on Q9 and Q10 as shown in the accompanying diagram. Normally these diodes will be reverse biased, but they will become forward biased during the transient, protecting the gate.

Best regards,



Nelson Pass

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