

# Failed Temp test with 8ohms and 2Vrms input

@8ohm resistive load on each channel, Output from Rigol DG1022 - **2Vrms** input RCA in both L+R channel  
sweep from 10Hz - 25k for 10seconds - then repeat automaticly, (**about 18,53 x 2,2 Ampere = 40WATT**)  
Ambient 20°C at Start, Temp measurement tool is Voltcraft IR-230  
no true rms DDM in channel L for current  
no true rms DMM in channel R for Voltage  
AMP 1 (LM40720), PSU1

| running Time - [minutes] | Colis Temp °C | Heatsink °C | IRF9530 °C | LM317 °C |
|--------------------------|---------------|-------------|------------|----------|
| 6                        | 58            | 43          | 98         | 36,3     |
| cool down --> restart    |               |             |            |          |
| 1                        | 36            | 28          | 55         | 28       |

Why is the IRF getting hot??

Without seeing the circuit and the traces on the board I would speculate and can imagine two reasons for placing an IRF9530N power mosfet near the power supply socket:

- protection against false poling of the external power supply
- protection against other false operating conditions (overdrive, heat,...) derived from the TPA chip protection circuit

page23 #230