

EE4306 Tutorial

Power Amplifiers

This is a tutorial problem for Tuesday 2 November.

Design the input and output matching networks, for an amplifier using an LX401, 70 Volt, 60 Watt FET, to operate at 250 MHz and a 28 Volt. Design a matching network to match the transistor to a 50 Ω source. Justify your choice of network.

Incorporate the matching networks in an MWO simulation of the amplifier and hence determine the power gain, input and output impedance and stability of your amplifier design

The data sheets for the transistor are linked to the tutorial web page and can also be obtained from:
<http://www.polyfet.com/Dsheet%5CLX401.pdf>

The S parameter file and the device data sheet is available from the tutorial pages of the EE4306 web site.

The transistor model is available from the AWR elements list, please note that that is a full spice model and requires correct DC biasing to work properly.

C. J. Kikkert
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