Abstracts

Bipolar Microwave Linear Power Transistor Design

J.T.C. Chen and C.P. Snapp. "Bipolar Microwave Linear Power Transistor Design." 1979 Transactions on Microwave Theory and Techniques 27.5 (May 1979 [T-MTT] (Special Issue on Solid-State Microwave/Millimeter-Wave Power Generation, Amplification, and Control)): 423-430.

Design considerations for n-p-n bipolar microwave linear power transistors are discussed. Optimization procedures are presented for determining emitter width for a specfic operation frequency, emitter ballasting resistance, and active area geometry based on calculated temperature distributions. A transistor chip designed for 4-GHz operations using these procedures achieved a linear power output of 27.5 dBm at a 1-dB compressed gain of 7 dB with a power added efficiency of 23 percent. Junction temperature rise was limited to 90°C.

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