Abstracts

Lumped-Circuit Elements at Microwave Frequencies

C.S. Aitchison, R. Davies, I.D. Higgins, S.R. Longley, B.H. Newton, J.F. Wells and J.C. Williams. "Lumped-Circuit Elements at Microwave Frequencies." 1971 Transactions on Microwave Theory and Techniques 19.12 (Dec. 1971 [T-MTT] (1971 Symposium Issue)): 928-937.

This paper describes how lumped-circuit elements can be made and used at microwave frequencies. Details are given of lumped capacitors, inductors, resistors, and gyrators. Active combinations of these components and unencapsulated semiconductor chips include a 4-GHz tunnel-diode amplifier, a varactor-tuned X-band Gunn oscillator, a degenerate S-band parametric amplifier and an X-band Doppler radar. It is concluded that the techniques described here are useful at microwave frequencies up to X band.

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