Abstracts

Broad-Band Distributed Amplifier Impedance-Matching Techniques

K.R. Cioffi. "Broad-Band Distributed Amplifier Impedance-Matching Techniques." 1989 Transactions on Microwave Theory and Techniques 37.12 (Dec. 1989 [T-MTT] (1989 Symposium Issue)): 1870-1876.

A circuit concept is, developed which allows impedance transformations to be performed over extremely broad bandwidths. The transformation is obtained by coupling one or more input or output lines of a distributed amplifier into several output or input lines respectively. The circuit technique is demonstrated for a 1:2 impedance transformation over a 2-20 GHz bandwidth by results presented for a fabricated amplifier. The amplifier yields a VSWR of better than 1.7:1 at the input into 25 Omega and better than 1.5:1 into 50 Omega at the output while maintaining a gain of 9±1 dB. An application of the technique to the important broad-band impedance-matching problem of a laser diode is discussed.

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