Abstracts

A Broadband, Planar, Doubly Balanced Monolithic Ka-Band Diode Mixer (Dec. 1993 [T-MTT])

S.A. Maas and K.W. Chang. "A Broadband, Planar, Doubly Balanced Monolithic Ka-Band Diode Mixer (Dec. 1993 [T-MTT])." 1993 Transactions on Microwave Theory and Techniques 41.11 (Dec. 1993 [T-MTT] (1993 Symposium Issue)): 2330-2335.

This paper describes a new type of planar, monolithic diode mixer achieving 5-10 dB conversion loss and very low distortion and spurious responses over a 26-to 40-GHz RF and LO bandwidth and dc-12 GHz IF. The mixer has exhibited low loss and low distortion operating as both a downconverter and upconverter. Two types of diodes have been used: the first used the gate-to-channel junctions of 0.2 x 80 µm InGaAs HEMT's; and the second used Schottky diodes realized in HBT technology. The baluns are Marchand-like coplanar structures.

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