Abstracts

A Submillimeter-Wave Planar Diode Mixer - Design and Evaluation

T. Newman and K.T. Ng. "A Submillimeter-Wave Planar Diode Mixer - Design and Evaluation." 1991 MTT-S International Microwave Symposium Digest 91.3 (1991 Vol. III [MWSYM]): 1293-1296.

A novel 345 GHz mixer employing a planar GaAs Schottky diode has been designed and tested at the University of Virginia. The design process used nonlinear and linear numerical mixer analysis as well as scale model impedance measurements. Using a planar diode eliminates the disadvantages of mechanical instability and labor-intensive assembly associated with the whisker in conventional whisker-contacted diodes. To the best of our knowledge, this represents the first attempt at using a planar diode in a submillimeter-wave mixer, and test results indicate performance on the same level as the best whisker-contacted room temperature mixers for submillimeter wavelengths.

❑ Return to main document.