Abstracts

Fabrication and Performance of Planar Schottky Diodes with T-Gate-Like Anodes in 200-GHz Sulbharmonically Pumped Waveguide Mixers

I. Mehdi, S.C. Martin, R.J. Dengler, R.P. Smith and P.H. Siegel. "Fabrication and Performance of Planar Schottky Diodes with T-Gate-Like Anodes in 200-GHz Sulbharmonically Pumped Waveguide Mixers." 1996 Microwave and Guided Wave Letters 6.1 (Jan. 1996 [MGWL]): 49-51.

A T-gate-like structure has been developed, fabricated, and tested as the anode for millimeter and submillimeter-wave Schottky diodes. The low parasitic of the T-anode diodes yield extremely high cutoff frequencies, making the diodes useable at frequencies well beyond 1 THz. The diodes were tested as an antiparallel-pair, integrated monolithically with microstrip circuitry on a quartz substrate, in a subharmonically pumped waveguide mixer. A double sideband noise temperature of 600 K with a conversion loss of 4.7 dB were measured at 200 GHz. This is believed to be the lowest noise temperature ever reported for a room-temperature subharmonically pumped Schottky diode mixer at this frequency.

❑ Return to main document.