Abstracts

A Monolithic 60 GHz Diode Mixer and IF Amplifier in Compatible Technology

B. Adelseck, A. Colquhoun, J.-M. Dieudonne, G. Ebert, K.-E. Schmegner, W. Schwab and J. Selders. "A Monolithic 60 GHz Diode Mixer and IF Amplifier in Compatible Technology." 1989 Transactions on Microwave Theory and Techniques 37.12 (Dec. 1989 [T-MTT] (1989 Symposium Issue)): 2142-2147.

To integrate key components of a millimeter-wave system monolithically in the future a novel technology has been developed which allows the integration of Schottky diodes and MESFET's on one chip. The fabricated Schottky diodes have a cutoff frequency f/sub T/ of 2300 GHz. A monolithic 60 GHz mixer chip with these diodes shows a conversion loss of 6 dB and a noise figure (DSB) of 3.3 dB. The MESFET's, have an f/sub max/ up to 70 GHz. A realized two-stage IF amplifier shows a gain of 20.6 dB and a noise figure of 1.7 dB at 4 GHz.

❑ Return to main document.