# Abstracts

## A 30-GHz Monolithic Single Balanced Mixer with Integrated Dipole Receiving Element

*S.J. Nightingale, M.A.G. Upton, B.K. Mitchell, U.K. Mishra, S.C. Palamateer and P.M. Smith. "A 30-GHz Monolithic Single Balanced Mixer with Integrated Dipole Receiving Element." 1985 Transactions on Microwave Theory and Techniques 33.12 (Dec. 1985 [T-MTT] (1985 Symposium Issue)): 1603-1610.*

This paper will describe a 30-GHz monolithic low-noise balanced mixer which has been developed using an integrated bow-tie antenna to waveguide transition and low parasitic Mott diodes. The diodes and mixer circuit were developed using MBE material and were fabricated using a plated airbridge technology. Measurements on the diode at dc and RF showed that the zero bias junction capacitance was 0.025 pF and the series resistance was 10 Omega. A mixer conversion loss of 6 dB was measured at 30 GHz with an IF of 1 GHz.

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