Abstracts

A 30 GHz Monolithic Single Balanced Mixer with Integrated Dipole Receiving Element (1985 [MCS])

S.J. Nightingale, M.A.G. Upton, U.K. Mishra, S.C. Palmateer and P.M. Smith. "A 30 GHz Monolithic Single Balanced Mixer with Integrated Dipole Receiving Element (1985 [MCS])." 1985 Microwave and Millimeter-Wave Monolithic Circuits Symposium Digest 85.1 (1985 [MCS]): 74-77.

A 30 GHz monolithic low noise balanced mixer has been developed using an integrated ‘bow tie’ antenna/WG transition and low parasitic Mott diodes. The diodes and mixer circuit were developed on General Electric grown MBE material and were fabricated using a plated air bridge 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 ohms. A conversion loss of 6 dB was measured at 30 GHz with a 1 GHz IF.

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