Abstracts

An X-Band Paramp with 0.85 dB Noise Figure (Uncooled) and 500 MHz Bandwidth

L.E. Dickens. "An X-Band Paramp with 0.85 dB Noise Figure (Uncooled) and 500 MHz Bandwidth." 1972 G-MTT International Microwave Symposium Digest of Technical Papers 72.1 (1972 [MWSYM]): 55-57.

This paper describes the results of a development program which had two primary objectives: (1) the development of planar, passivated varactor chip diodes with a zero bias frequency cutoff of greater than 600 GHz, and (2) the employment of these chips in an uncooled, X-band Paramp System having a noise temperature of 60° K. GaAs Schottky barrier varactors with a cutoff frequency of 800 GHz have been used in a balanced diode type of parametric amplifier operating with a signal frequency at 7.6 GHz. The parameters of the overall amplifier operating at room temperature are: Gain of 15 dB, Bandwidzh of 500 MHz, and an excess noise temperature of 62°K (a noise figure of 0.85 dB).

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