Abstracts

Avalanche Noise from Schottky Barrier Diodes in the Frequency Range 75 - 115 GHz (Technical Notes)

N.J. Keen, R.W. Haas and P. Zimmermann. "Avalanche Noise from Schottky Barrier Diodes in the Frequency Range 75 - 115 GHz (Technical Notes)." 1978 Transactions on Microwave Theory and Techniques 26.10 (Oct. 1978 [T-MTT] (Special Issue on Microwave and Millimeter-Wave Integrated Circuits)): 843-844.

Excess noise has been generated in the 75-115 GHz band, by reverse biasing GaAs Schottky barrier diodes into avalanche breakdown. Diodes with lower epi-layer doping yield lower excess noise, but provide stable avalanche noise, and are less liable to generate excess mixer noise. A sharp reverse bias characteristic appears to be a precondition for a stable avalanche noise output.

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