Abstracts

GaAs Schottky Barrier Diodes for High Sensitivity Millimeter and Submillimeter Wavelength Receivers

T.W. Crowe and R.J. Mattauch. "GaAs Schottky Barrier Diodes for High Sensitivity Millimeter and Submillimeter Wavelength Receivers." 1987 MTT-S International Microwave Symposium Digest 87.2 (1987 Vol. II [MWSYM]): 753-756.

Recent advances promise to increase the sensitivity of GaAs Schottky barrier mixer diodes for use in millimeter and submillimeter wavelength receivers. Noise properties of the diodes are now well understood, and numerical mixer anafysis techniques have been extended to incorporate the new noise models. These analyses can be used to investigate the performance of receivers throughout these wavelength ranges and at cryogenic operating tempatures. Important guidelines for diode development have been developed. Alternative diode structures, which can now be fabricated by new epitaxial growth techniques, also promise to yield higher sensitivities.

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