Abstracts

Performance of a Dual-Gate GaAs MESFET as a Frequency Multiplier at Ku-Band

P.T. Chen, C.-T. Li and P.H. Wang. "Performance of a Dual-Gate GaAs MESFET as a Frequency Multiplier at Ku-Band." 1979 Transactions on Microwave Theory and Techniques 27.5 (May 1979 [T-MTT] (Special Issue on Solid-State Microwave/Millimeter-Wave Power Generation, Amplification, and Control)).

The fabrication and characteristics of a dual-gate GaAs MESFET are briefly described. The feasibility of using a dual-gate GaAs MESFET as a novel frequeney multiplier over Ku-band with good conversion gain is demonstrated. The multiplier achieved 8-dB conversion gain with frequency doubling at 12.6 GHz and 2.5-dB gain with frequency tripling at 12 GHz. In addition, it possessed a built-in control of conversion gain over a 36-dB dynamic range.

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