Abstracts

Low Frequency Noise Measurements of GaAs FETs

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A knowledge of low frequency noise in FETs is essential in designing oscillators, multipliers, and broadband amplifiers for fiber optics. Measurements on commercial and research GaAs FETs are presented which show up to 25 db differences in the 1/f noise of similarly sized devices. The presence of discrete traps creates even larger differences. The importance of material quality over FET size is demonstrated. Simple equations are presented which describe the noise sources and noise figure of an FET at all frequencies.

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