

Broadband Negative Resistance Oscillator Circuits

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Negative resistance oscillators can perform various functions other than just fixed frequency oscillations. For example, the electronic tuning effect is commonly used to generate FM signals and the injection locking phenomenon can be utilized for FM amplification, limiting and demodulation. For fixed frequency oscillations, the oscillator resonant circuit is generally designed to have as high an external Q as possible for good frequency stability and noise performance. However, for the other applications mentioned above, relatively broadband circuits are desired. This paper discusses various factors to be considered in their design.

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