

Abstracts

A GaAs IC Broadband Variable Ring Oscillator and Arbitrary Integer Divider

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A single GaAs IC performs as a broadband variable ring oscillator (VRO) and arbitrary integer frequency divider. The oscillator, a ring of inverters with a variable delay feature, covers two octaves in the 0.4 to 1.6 GHz range without external tuning elements, and is theoretically arbitrarily extendable lower in frequency. A provision for external signal injection enables injection locking. Frequency division is achieved with selectable arbitrary division ratio by tuning the oscillator to near the desired submultiple of the input signal. Spur-free output with constant amplitude is maintained independent of divide ratio.

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