Abstracts

Monolithic, Lumped Element, Single Sideband Modulator (1992 Vol. II [MWSYM])

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In monolithic microwave integrated circuit (MMIC) technology, at frequencies below 18 GHz, distributed elements consume too much valuable GaAs real estate to be cost-effective. An appreciable reduction in surface area without a degradation in electrical performance can be realized with the use of lumped elements. This paper describes the design and performance of a monolithic single sideband modulator that employs lumped element technology to achieve a compact circuit. For this design, the carrier frequency is 6.9 GHz and the modulating signal is in the range of 0 to 500 MHz. Therefore, the lower sideband is 6.4 to 6.9 GHz and the upper sideband is 6.9 to 7.4 GHz.

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