

Abstracts

A Complete Small Size 2 to 30 GHz Hybrid Distributed Amplifier Using a Novel Design Technique

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A 2-30 GHz hybrid distributed amplifier has been designed using a novel design technique. It includes the bias circuitries and exhibits $4.8 \text{ dB} \pm 0.4 \text{ dB}$ up to 30 GHz. The design approach is based on a detailed analysis of the impedances and the cut-off frequency of the transmission lines to reduce the ripple and to increase the bandwidth. This novel approach can be applied in order to improve more generally the performance of distributed amplifiers. This is the first hybrid amplifier ever reported to cover such a wide frequency range using 0.5 μm GaAs FETs and including the bias circuitries.

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