

Abstracts

A One-Watt CW High-Efficiency X-Band Avalanche-Diode Amplifier (Correspondence)

D.M. Snider. "A One-Watt CW High-Efficiency X-Band Avalanche-Diode Amplifier (Correspondence)." 1970 Transactions on Microwave Theory and Techniques 18.11 (Nov. 1970 [T-MTT] (Special Issue on Microwave Circuit Aspects of Avalanche-Diode and Transferred Electron Devices)): 963-967.

An X-band avalanche-diode amplifier circuit is described which provides accurate and independent in-band impedance control (R and $+jx$) and orthogonal second-harmonic reactance control. Low-level gains of 13 dB with 500 MHz of bandwidth have been achieved using this circuit. Power outputs of 1 watt CW with 5 dB of gain and 14.7-percent generation efficiency have also been realized by carefully controlling the in-band and second-harmonic load impedance.

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