Abstracts

A plastic package GaAs MESFET 5.8-GHz receiver front-end with on-chip matching for ETC system

Eng Chuan Low, K. Yan, H. Nakamura and H.I. Fujishiro. "A plastic package GaAs MESFET 5.8-GHz receiver front-end with on-chip matching for ETC system." 2000 Transactions on Microwave Theory and Techniques 48.2 (Feb. 2000 [T-MTT] (Mini-Special Issue on Research Reported at the 1999 Radio Frequency Integrated Circuits (RFIC) Symposium)): 209-213.

A plastic package GaAs MESFET receiver front-end monolithic microwave integrated circuit operating at 5.8 GHz is presented in this paper. It has a two-stage low-noise amplifier followed by a dual-gate mixer. Operating at 3 V and 8.3 mA, a conversion gain of 20.4 dB, noise figure of 4.1 dB, and high port-to-port isolations have been achieved. Total chip size of 1.0/spl times/0.9 mm/sup 2/ has been achieved through on-chip matching for both RF and local-oscillator ports and the use of simple two-element matching networks for all interstage matching. The 3-dB bandwidth of conversion gain is 1 GHz.

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