Abstracts

A 1.0V GaAs Receiver Front-End IC for Mobile Communication Equipment

J. Itoh, T. Nakatsuka, M. Nishitsuji, T. Uda and O. Ishikawa. "A 1.0V GaAs Receiver Front-End IC for Mobile Communication Equipment." 1996 Microwave and Millimeter-Wave Monolithic Circuits Symposium Digest 98. (1996 [MCS]): 77-80.

A 1.0V operation GaAs receiver front-end IC has been developed by using novel combination of an E-FET and a D-FET for the amplifiers and mixer, high performance GaAs BP-MESFET and on-chip high-epsilon/sub r/ capacitors. The IC shows conversion gain (CG) of 23dB, noise figure (NF) of 2.8dB, the 3rd order output intercept point (IP3out) of 3dBm, image rejection ratio (IRR) over 20dB and LO to RF isolation over 25dB, operating at 880MHz and 6.8mA. At 1.9GHz, the IC also has excellent RF characteristics at dissipation current of 6.5mA. The IC chip has the small size of 0.75mm x 0.75mm, and is molded in a mini-6pin package.

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