

Abstracts

A high-gain 50-GHz-band monolithic balanced gate mixer with an external IF balun

K. Kawakami, N. Uehara, K. Matsuo, T. Kashiwa, K. Itoh, Y. Isota and O. Ishida. "A high-gain 50-GHz-band monolithic balanced gate mixer with an external IF balun." 1998 Transactions on Microwave Theory and Techniques 46.6 (Jun. 1998 [T-MTT]): 829-833.

This paper presents a 90-GHz-band high-gain monolithic balanced gate mixer. IF impedance of the balanced gate mixer is approximated from a small-signal equivalent circuit, and conversion gain of the mixer is improved by using an external IF balun with high impedance-transforming ratio. The maximum conversion gain of 8.2 dB is achieved at LO power of 0 dBm. Effectiveness of the described mixer is confirmed experimentally.

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