

Abstracts

K-Band Integrated Double-Balanced Mixer

H. Ogawa, M. Aikawa and K. Morita. "K-Band Integrated Double-Balanced Mixer." 1980 Transactions on Microwave Theory and Techniques 28.3 (Mar. 1980 [T-MTT]): 180-185.

A novel microwave integrated circuit (MIC) double-balanced mixer with good isolation between the three ports is described. The mixer is fabricated using a combination of microstrip lines, slotlines, and coupled slotlines, together with four beam-lead Schottky-barrier diodes. The K-band magic-T has been developed for the double-balanced mixer. The minimum conversion loss measured at a signal frequency of 19.6 GHz is 4.7 dB. Isolation between RF and LO ports is greater than 20 dB from 18 to 21 GHz. The mixer can be expected to have wide applications in MIC receivers and transmitters up to the millimeter-wave band.

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