Abstracts

A Broad-Band Second-Harmonic Mixer Covering 76-106 GHz

R. Kawasaki and M. Akaike. "A Broad-Band Second-Harmonic Mixer Covering 76-106 GHz." 1978 Transactions on Microwave Theory and Techniques 26.6 (Jun. 1978 [T-MTT]): 425-427.

A broad-band second-harmonic millimeter-wave mixer has been constructed. The circuit consists of a single unencapsulated Schottky-barrier diode and embedding network which includes a wave absorber in the IF output terminal. The conversion loss of the mixer is 14.6 ± 0.9 dB over a frequency range of 76-106 GHz. The mixer is pumped by a Iocal oscillator that is tuned over the range of 37.15-52.15 GHz. The IF is kept constant at 1.7 GHz. The new mixer looks attractive for use in broad-band millimeter-wave measuring equipment, such as spectrum analyzers.

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