Abstracts

Subharmonically Pumped Millimeter-Wave Mixers Built with Notch-Front and Beam-Lead Diodes

T.F. McMaster, E.R. Carlson and M.V. Schneider. "Subharmonically Pumped Millimeter-Wave Mixers Built with Notch-Front and Beam-Lead Diodes." 1977 MTT-S International Microwave Symposium Digest 77.1 (1977 [MWSYM]): 389-391.

Low noise and wide tunable bandwidth have been achieved in two-diode subharmonically-pumped hybrid integrated downconverters. A single-sideband mixer noise figure of 5 dB was measured at 98 GHz with Schottky-barrier diodes of a unique chip design, "notch-front diodes", mounted in a two-diode downconverter. A second circuit has been developed with a tunable bandwidth of 66-110 GHz. Over this frequency range, conversion loss of 5-9 dB and receiver noise figure of 10-14 dB, including an IF noise figure of 4 dB, was measured in a circuit using commercial beam-lead diodes.

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