Abstracts

Low-Noise Thin-Film Downconverters for Millimeter Systems Applications

A.G. Cardiasmenos, J.M. Cotton and J.R. DelConte. "Low-Noise Thin-Film Downconverters for Millimeter Systems Applications." 1978 MTT-S International Microwave Symposium Digest 78.1 (1978 [MWSYM]): 399-401.

Millimeter wave downconverters intended for systems applications have been developed using thin film planar technology. The downconverters, operating with subharmonic-pumping, have achieved a total receiver noise figure as low as 5.7 dB SSB over an RF Bandwidth in excess of 20%. The converters are fixed-tuned, requiring no adjustments, and utilize improved planar Schottky barrier diodes which exhibit up to 3.5 THz zero bias cutoff frequencies. Although subharmonically pumped, the downconverters exhibit performance which in many respects is superior to conventional balanced mixers, and may provide a useful solution to cost effective systems requirements at millimeter wavelengths.

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