Abstracts

A Monolithic 250 GHz Schottky-Diode Receiver (1994 Vol. III [MWSYM])

S.S. Gearhart and G.M. Rebeiz. "A Monolithic 250 GHz Schottky-Diode Receiver (1994 Vol. III [MWSYM])." 1994 MTT-S International Microwave Symposium Digest 94.3 (1994 Vol. III [MWSYM]): 1333-1336.

A 250 GHz monolithic Schottky-diode receiver based on a double-slot antenna is presented. The double-slot antenna is placed on an extended hemispherical high-resistivity silicon substrate lens. The measured DSB conversion loss and noise temperature at 258 GHz are 9.0 ± 0.3 dB and 2000 ± 100K for the antenna/mixer, respectively. The measured results are expected to be about 2 dB better with more LO power and a matching cap layer. The uniplanar double-slot antenna receiver is less than 0.3 x 1mm in size including the IF filter and represents the first fully monolithic 250 GHz receiver to-date.

❑ Return to main document.