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Abstract:This paper presents a novel type of RF power sensor, based on a metallic structure integrated into an mm-wave range dielectric rod waveguide made of Si. The metallic structure is employed as a bolometer. Numerical simulations of temperature distribution are shown. A prototype was tested at frequencies of 45 GHz-1 THz and a power levels from 0.1 to 500 mW. The power sensor showed the sensitivity of 0.51 ΩmWresistance change. © 2011-2012 IEEE.
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