Abstracts

Measurement Techniques for Planar High-Frequency Circuits (Short Papers)

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Planar bismuth bolometers can be used as measuring elements in planar millimeter-wave circuits. These devices are easy to fabricate and calibrate; moreover, their responsivity is thought to be nearly independent of frequency throughout the millimeter-wave regime. Furthermore, they are inherently linear detectors over as much as seven orders of magnitude. Noise-equivalent powers of 2x 10/sup-10/ W/Hz/sup 1/2/ can be attained. The high sensitivity of these devices makes them suitable for use in probes. Techniques for measurement of current and reflection coefficient are proposed. Trial measurements, using simulation at 1 GHz, are described.

❑ Return to main document.