Abstracts

A New Probe for W-Band On-Wafer Measurements

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A new W-band wafer probe based on a coaxial line design has been developed. With built-in bias tee, we achieve 2 dB insertion loss and better than 12 dB return loss from 75 GHz to 110 GHz. A probe without bias tee has 1.3 dB loss and 15 dB return loss at 94 GHz when optimized for narrow band application. S-parameters of discrete transistors and circuits have been accurately measured from 75 GHz to 110 GHz. Noise figure of active circuits have also been measured at W-band with these probes. To our knowledge, this covers the highest frequency achieved by direct on-wafer probing,

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