Abstracts

A micromachined finite coplanar line-to-silicon micromachined waveguide transition for millimeter and submillimeter wave applications

Yongshik Lee, J.P. Becker, J.R. East and L.P.B. Katehi. "A micromachined finite coplanar line-to-silicon micromachined waveguide transition for millimeter and submillimeter wave applications." 2002 MTT-S International Microwave Symposium Digest 02.3 (2002 Vol. III [MWSYM]): 1871-1874 vol.3.

A finite ground coplanar (FGC) line-to-waveguide transition utilizing a novel, free-standing printed E-plane probe has been demonstrated in W-band (75-110 GHz). One way to improve the performance of such a transition and to extend its utility well into the submillimeter range is to thin the supporting substrate beneath the probe. This paper presents the W-band performance of a fully micromachined finite ground coplanar line-to-silicon diamond waveguide transition with the substrate beneath the probe entirely removed, thus forming a free-standing metal structure.

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