Abstracts

W-band single-layer vertical transitions

J.-P. Raskin, G. Gauthier, L.P. Katehi and G.M. Rebeiz. "W-band single-layer vertical transitions." 2000 Transactions on Microwave Theory and Techniques 48.1 (Jan. 2000 [T-MTT]): 161-164.

Vertical single-layer transitions operating at W-band frequencies have been developed. The designs are uniplanar, use electromagnetic coupling, and do not require via holes or air bridges. The first transition uses coplanar-waveguide-mode coupling and results in an insertion loss of better than 0.6 dB over the whole band, with a loss of 0.25 dB from 85 to 110 GHz. The return loss is better than -10 dB from 75 to 110 GHz. The second transition uses microstrip-mode coupling and results in a 0.2-dB insertion loss over the whole W-band. These transitions can prove very useful for millimeter-wave packaging and vertical interconnects.

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