Abstracts

Distributed MEMS phase shifters on silicon using tapered impedance unit cells

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This paper presents results for one bit distributed coplanar waveguide (CPW) MEMS phase shifters that are designed to operate from 5-40 GHz on high resistivity silicon. The periodically loaded structures use 11 MEMS capacitors interconnected with tapered impedance transmission line. The phase shift of a one bit configuration is approximately 150/spl deg//dB at 25 GHz and 211/spl deg//dB at 35 GHz. The return loss in the up and down state is greater than 10 dB from 10-35 GHz.

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