Abstracts

Miniaturized slow-wave coplanar waveguide circuits on high-resistivity silicon

J. Naylor, T. Weller, J. Culver and M. Smith. "Miniaturized slow-wave coplanar waveguide circuits on high-resistivity silicon." 2002 MTT-S International Microwave Symposium Digest 02.2 (2002 Vol. II [MWSYM]): 669-672 vol.2.

This paper discusses slow-wave (SW) coplanar waveguide structures printed on high-resistivity silicon. Relative to a uniform line, a SW structure can reduce the guide wavelength by 45% with a 17% increase in loss per wavelength, allowing circuit miniaturization with minimal additional loss. The SW structure is demonstrated in new topologies for /spl lambda//4 impedance transformers and an RF short. The transformer length is reduced by as much as 80% relative to a conventional design.

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