Abstracts

Monolithic implementation of coaxial line on silicon substrate

In-Ho Jeong and Young-Se Kwon. "Monolithic implementation of coaxial line on silicon substrate." 2000 Microwave and Guided Wave Letters 10.10 (Oct. 2000 [MGWL]): 406-408.

A coaxial line has been monolithically fabricated on a silicon substrate using benzocylobutene (BCB) for dielectric spacers. Because of its closed structure, it is an effective interconnection method to reduce parasitic radiation and the coupling effect. The fabricated coaxial line with 2 mm length has high isolation (<-60 dB), low attenuation (<0.08 dB/mm) and low return loss (<-32 dB) in the range of 1-20 GHz. It can be easily fabricated using standard silicon IC technologies, and requires no wafer thinning and backside processing. In view of cost performance and integration density, the coaxial line on low-resistivity silicon is shown to be suitable for RF interconnect and multichip module (MCM) package applications.

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