Abstracts

Air-gap transmission lines for OEICs and MMICs using glass substrates

J. Chuang, S.M. El-Ghazaly, D.K. Schroder, Y.H. Zhang, G.N. Maracas and A.C. Reyes. "Air-gap transmission lines for OEICs and MMICs using glass substrates." 1997 MTT-S International Microwave Symposium Digest 1. (1997 Vol. I [MWSYM]): 265-268.

This paper describes transmission-line structures for optoelectronic integrated circuits (OEICs) and monolithic microwave integrated circuits (MMICs) using glass processing assisted microbump bonding (GPAMBB). Two different configurations of air-gap transmission lines are fabricated using this interconnection technique. Because the field distributions are mainly in air, these structures have the advantages of low losses, and low dispersion. Theoretical and experimental results of both structures are presented in this paper. The attenuation of the two air-gap transmission lines and the conventional CPW are compared over the 2 GHz-20 GHz range.

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