Abstracts

Development of a 36 GHz millimeter-wave BGA package

Hongwei Liang, J. Laskar, M. Hyslop and R. Panicker. "Development of a 36 GHz millimeter-wave BGA package." 2000 MTT-S International Microwave Symposium Digest 00.1 (2000 Vol. I [MWSYM]): 65-68.

We present a 36 GHz ball grid array (BGA) package design and its experimental characterization. A novel wideband de-embedding technique has been developed for accurate characterization of the package. A hybrid model has been developed for the transition including the ball and via interconnection and is verified with the measurement data of a microstrip line test structure. The transition demonstrates an insertion loss better than 0.3 dB to 36 GHz. The performance is demonstrated by measuring an MMIC amplifier built on the package. Our results show that the BGA is a cost-effective solution for millimeter wave RFIC packaging.

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