Abstracts

DBIT-direct backside interconnect technology: a manufacturable, bond wire free interconnect technology for microwave and millimeter wave MMICs

T.E. Kazior, H.N. Atkins, A. Fatemi, Y. Chen, F.Y. Colomb and J.P. Wendler. "DBIT-direct backside interconnect technology: a manufacturable, bond wire free interconnect technology for microwave and millimeter wave MMICs." 1997 MTT-S International Microwave Symposium Digest 2. (1997 Vol. II [MWSYM]): 723-726.

A novel, highly manufacturable, low loss interconnect technique-DBIT (Direct Backside Interconnect Technology)-is presented. Polymer bumps are used to provide RF and ground interconnects between the backside of the MMIC chip and the substrate. The RF interconnects have been characterized up to 40 GHz. Measured interconnections have a 24 GHz bandwidth with 0.05 dB insertion loss at 10 GHz. This approach eliminates wire bonds which are known to introduce significant parasitics including a variable series inductance and which constraint the design of microwave MCMs and single chip packages.

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