Abstracts

Low-loss passive components on BCB-based 3D MMIC technology

K. Nishikawa, S. Sugitani, K. Inoue, T. Ishii, K. Kamogawa, B. Piernas and K. Araki. "Low-loss passive components on BCB-based 3D MMIC technology." 2001 MTT-S International Microwave Symposium Digest 01.3 (2001 Vol. III [MWSYM]): 1881-1884 vol.3.

This paper proposes low-loss passive components that use newly developed trench-type transmission line together with BCB-based 3D MMIC technology. The trench-type transmission lines and via holes for 3D interconnection are fabricated simultaneously. The trench-type lines effectively reduce the transmission loss of passive components due to their high metal volume, resulting in high performance 3D MMICs. They are especially suitable for low frequency applications in which loss reduction is critical. Transmission lines and spiral/solenoidal inductors using the proposed trench-type line are demonstrated in this paper. These components offer low-loss and high quality factors. The design flexibility of the trench-type line is very high. This technology promises low cost, high performance, and highly integrated millimeter-wave MMICs including RF and IF circuits.

❑ Return to main document.