Abstracts

Development of Self-Packaged High Frequency Circuits Using Micromachining Techniques

R.F. Drayton and L.P.B. Katehi. "Development of Self-Packaged High Frequency Circuits Using Micromachining Techniques." 1995 Transactions on Microwave Theory and Techniques 43.9 (Sep. 1995, Part I [T-MTT]): 2073-2080.

A new concept for packaging high frequency monolithic circuits is presented. It consists of developing miniaturized housings to shield individual passive components (e.g., CPW based), active elements, or combinations of them by employing silicon micromachining technology. At high frequencies, self-packaged configurations that are fabricated in this manner provide reduction in the overall size and weight of a circuit and provide increased isolation between neighboring circuits. Therefore, the resulting characteristics make these micropackaged components appropriate for high density, multilevel interconnect circuits. This paper will describe the fabrication procedures used to develop self-packaged components. Performance curves for typical high frequency circuit geometries that are implemented in this configuration are shown for measured and theoretical results.

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