Abstracts

Analysis of Square-Spiral Inductors for Use in MMIC's (Short Papers)

P.R. Shepherd. "Analysis of Square-Spiral Inductors for Use in MMIC's (Short Papers)." 1986 Transactions on Microwave Theory and Techniques 34.4 (Apr. 1986 [T-MTT]): 467-472.

A method analysis of square spiral inductors for use in monolithic microwave integrated circuits (MMIC's) is presented. The method is based on the coupled microstrip-line theory and incorporates a novel solution to the multicoupled-line problem. The analysis includes the effect of the discontinuities at the right-angled bends in the lines, and also the feedback effect where the lead-out bridge crosses the lines. The method can be used to analyze components with an arbitrary number of spiral turns. Theoretical results are compared with the measured S-parameters of a 3 1/2-turn component over the range 2-12 GHz, and reasonable agreement between the two is found.

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