Abstracts

Modeling of frequency dependent losses in two-port and three-port inductors on silicon (2002 [RFIC])

T. Kamgaing, T. Myers, M. Petras and M. Miller. "Modeling of frequency dependent losses in two-port and three-port inductors on silicon (2002 [RFIC])." 2002 Radio Frequency Integrated Circuits (RFIC) Symposium 02. (2002 [RFIC]): 307-310.

New compact model forms for two-port and three-port symmetric inductors fabricated on silicon are discussed in this paper. These new models incorporate a frequency independent RL network that mimics the skin effect behavior of transmission lines on conductive substrates and can accurately predict the inductive behavior as well as the one-port single-ended and the one-port differential Q of these devices at microwave and millimeter wave frequencies. The new models are validated on inductors fabricated in a thick plated copper process.

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