# Abstracts

## A novel high-Q inductor based on Si 3D MMIC technology and its application

*K. Kamogawa, K. Nishikawa, T. Tokumitsu and M. Tanaka. "A novel high-Q inductor based on Si 3D MMIC technology and its application." 1999 Radio Frequency Integrated Circuits (RFIC) Symposium 99. (1999 [RFIC]): 185-188.*

A novel high-Q spiral inductor, implemented on a conductive Si wafer by applying the 3D MMIC structure over it, is proposed. The proposed inductor effectively uses a 10 /spl mu/m thick polyimide layers and ground plane with a window below the spiral. A Q-factor of 21.7 at 1.88 nH and 5.8 GHz is achieved. A 5 GHz-band LNA is also designed with the new inductors and Si BJT with f/sub max/ of 24 GHz, and the highest-class of performance was predicted with a 20 dB gain and a 2.5 dB noise figure.

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