Abstracts

Improvements to performance of spiral inductors on insulators (2002 Vol. I [MWSYM])

D. Kelly and F. Wright. "Improvements to performance of spiral inductors on insulators (2002 Vol. I [MWSYM])." 2002 MTT-S International Microwave Symposium Digest 02.1 (2002 Vol. I [MWSYM]): 541-543 vol.1.

The performance of spiral inductors on insulating substrates is far superior to ones fabricated in bulk CMOS or BiCMOS processes. In spite of this, SOI inductors are generally not satisfactory for very low noise or low insertion loss circuits. This work studies high frequency effects on current density in inductors and discusses improvements in metallization and layout. Based on this research, a 5.5 nH inductor has been fabricated on sapphire with a 540 um diameter and 4.5 um thick aluminum, resulting in a quality factor of 25 at 2 GHz.

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