Abstracts

Improved microwave performance on low-resistivity Si substrates by Si/sup +/ ion implantation

Pin-Quan Chen and Yi-Jen Chan. "Improved microwave performance on low-resistivity Si substrates by Si/sup +/ ion implantation." 2000 Transactions on Microwave Theory and Techniques 48.9 (Sep. 2000 [T-MTT] (Mini-Special Issue on Research Reported at the 8th Topical Meeting on Electrical Performance of Electronic Packaging (EPEP) 1999)): 1582-1585.

Microwave characteristics of spiral inductors on low-resistivity Si substrates have been improved by implanting Si/sub 28//sup +/ ions. Spiral inductors fabricated on these implanted substrates demonstrate better Q-value and microwave performance. The Q-value of inductor enhanced 60% on the implanted substrates than that of low resistivity Si substrates. An equivalent circuit model of inductor has been evaluated to discuss the effect of substrate loss.

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