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ABSTRACT

A METHOD OF REDUCING SUBSTRATE COOUPLING FOR CHIP INDUCTORS BY CREATION OF DIELECTRIC ISLANDS BY SELECTIVE EPI DEPOSITION

A new method is provided for the creation of a horizontal spiral inductor over the surface of a silicon substrate. A first layer of dielectric is deposited over the surface of the substrate, this first layer of dielectric is patterned and etched creation islands of first dielectric material overlying the surface of the substrate, the islands of first dielectric material align with coils of a thereover to be created spiral inductor. The openings created in the layer of dielectric by the patterning and etching of the first layer of dielectric are filled by selective deposition of epitaxial silicon therein. Second and third layers of dielectric are successively deposited over the surface of the first layer of dielectric. A spiral horizontal inductor is then created over the surface of the third layer of dielectric.

FIGURE 5