

TECHNOLOGY AVAILABLE FOR LICENSING



Thin Film Structures with Negative Inductance

Advantages:

- Rectifies parasitic inductance with a structure that has negative self-inductance
- Structure is unpowered
- Fits in very small spaces, suitable for microelectronics

Applications:

- Electrical devices where parasitic inductance is a problem
- Suitable for very small boards and electronics
- Smaller than existing inductors
- Any electrical device where power is an issue

Description:

High-speed integrated circuits and semiconductor devices are known to suffer from parasitic inductances that occur, for example, in individual components and around interconnection lines. This invention can solve this common issue. The invention is a conductor which is a vertical stack of three or more multilayer films. The multilayer film comprises two layers of metal and a specific shape, which gives the structure the unique ability to be an unpowered, passive inductor. The metals and thicknesses are chosen so the inductor exhibits a negative electrical self-inductance when an electrical signal is transmitted from a first contact point to a second contact point.

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