

Title (en)  
CONDUCTORS FOR INTEGRATED CIRCUITS

Title (de)  
LEITER FÜR IC'S

Title (fr)  
CONDUCTEURS POUR CIRCUITS INTEGRES

Publication  
**EP 0902974 A1 19990324 (EN)**

Application  
**EP 97926345 A 19970530**

Priority  
• SE 9700954 W 19970530  
• SE 9602191 A 19960531

Abstract (en)  
[origin: WO9745873A1] The quality factor (Q-value) of spiral inductors or coils (305) in IC-circuits is improved by partially removing the semiconducting substrate (301) under the inductor (305) by etching trenches (303), which are refilled with an isolating material. Hence, the losses caused by the substrate (301) are reduced and the quality factor is increased accordingly. The parasitic capacitance to the substrate (301) is also reduced, increasing the resonance frequency of the inductor (305) and extending the useful frequency range of operation of the inductor. Furthermore, by utilizing the uppermost metals of a multi-layer metal structure in the circuit, additional reduction of losses and parasitic capacitance are also achieved. The use of trenches (303) under metal patterns for loss and capacitance reduction is not limited to spiral inductor layouts, and can be used for any metal line, bond pad, etc.

IPC 1-7  
**H01L 23/64**; **H01L 21/31**

IPC 8 full level  
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