

ABSTRACT

RADIO-FREQUENCY LOSS REDUCTION FOR INTEGRATED DEVICES

In radio-frequency (RF) devices integrated on semiconductor-on-insulator (e.g., silicon-based) substrates, RF losses may be reduced by increasing the resistivity of the semiconductor device layer in the vicinity of (e.g., underneath and/or in whole or in part surrounding) the metallization structures of the RF device, such as, e.g., transmission lines, contacts, or bonding pads. Increased resistivity can be achieved, e.g., by ion-implantation, or by patterning the device layer to create disconnected semiconductor islands.

(fig. 7)