

METHOD FOR MANUFACTURING A SEMICONDUCTOR-ON-INSULATOR STRUCTURE FOR RADIOFREQUENCY APPLICATIONS

ABSTRACT

The invention relates to a method for manufacturing a semiconductor-on-insulator structure (10), comprising the following steps: - providing an FD-SOI substrate (1) comprising, successively from its base to its top: a monocrystalline substrate (2) having an electrical resistivity of between 500 $\Omega\cdot\text{cm}$ and 30 $\text{k}\Omega\cdot\text{cm}$, an interstitial oxygen content (O_i) of between 20 and 40 old ppma, and having an N- or P-type doping, an electrically insulating layer (3) having a thickness of between 20 nm and 400 nm, a monocrystalline layer (4) having a P-type doping, - heat-treating the FD-SOI substrate (1) at a temperature greater than or equal to 1175°C for a time greater than or equal to 1 hour in order to form a P-N junction (5) in the substrate. The invention also relates to such a semiconductor-on-insulator structure.

Fig. 2