Abstract

Method for Fabricating a Semiconductor on Insulator Substrate with Reduced SECCO Defect Density

The invention relates to a method for fabricating a semiconductor on insulator substrate, in particular a silicon on insulator substrate comprising the steps of: providing a source substrate, providing a predetermined splitting area inside the source substrate by implanting atomic species, attaching, preferably by bonding, the source substrate to a handle substrate, detaching a remainder of the source substrate from the source-handle compound at the predetermined splitting area to thereby transfer a device layer of the source substrate onto the handle substrate, and thinning of the device layer. To obtain semiconductor on insulator substrates with a reduced SECCO defect density of less than 100 per cm^2 the implanting is carried out with a dose of less than 2.3×10^6 atoms per cm^2 and thinning comprises an oxidation step at a temperature of less than 925°C

Figure 1.