

ABSTRACT**PROCESS FOR FABRICATING A SEMICONDUCTOR-ON-INSULATOR SUBSTRATE
FOR RADIOFREQUENCY APPLICATIONS**

5

The invention relates to a process for fabricating a semiconductor-on-insulator substrate for radiofrequency applications, comprising the following steps:

- providing a p-doped semiconductor donor substrate (1),
- forming a sacrificial layer (13) on the donor substrate,
- 10 - implanting atomic species through said sacrificial layer (13), so as to form, in the donor substrate (1), a weakened area (11) defining a semiconductor thin layer (12) to be transferred,
- removing the sacrificial layer (13) from the donor substrate (1) after said implantation,
- 15 - providing a semiconductor carrier substrate (2) having an electrical resistivity greater than or equal to 500 Ω .cm,
- forming an electrically insulating layer (20) on the carrier substrate (2),
- bonding the donor substrate (1) to the carrier substrate (2), the semiconductor thin layer (12) and the electrically insulating layer (20) being at the bonding interface,
- 20 - detaching the donor substrate (1) along the weakened area (11) so as to transfer the semiconductor thin layer (12) from the donor substrate (1) to the carrier substrate (2).

Figure 6