CLAIMS

1. Method for manufacturing a semiconductor on insulator type substrate for radiofrequency applications, comprising the following steps in sequence:

(a) provision of a silicon substrate ~~(1)~~ with an electrical resistivity of more than 500 Ohm.cm,

(b) formation of a polycrystalline silicon layer ~~(4)~~ on said substrate ~~(1)~~,

said method ~~being characterised in that it comprises~~comprising a step between steps a) and b) to form a dielectric material layer ~~(5)~~, different from a native oxide layer, on the substrate ~~(1)~~, said dielectric material layer being between 0.5 and 10 nm thick,

(c) subjecting the silicon substrate, the dielectric material layer and the polycrystalline silicon layer to a thermal treatment, wherein the dielectric material layer is at least partially dissolved during said thermal treatment.

2. Method according to claim 1, ~~characterised in that~~ wherein it comprises the following steps in sequence after step (b):

(b1) formation of a dielectric material layer on said polycrystalline silicon layer ~~(4)~~ and/or on a semiconducting material layer ~~(3)~~ of a donor substrate ~~(30)~~,

(b2) bonding of the substrate obtained in step (~~e~~b1) on the donor substrate ~~(30)~~, the dielectric layer(s) formed in step (~~e~~b1) being at the interface,

(b3) separation of said semiconducting material~~thin~~ layer ~~(3)~~ from the donor substrate ~~(30)~~.

3. Method according to either claim 1 or 2, ~~characterised in that~~ wherein the concentration of doping agents in the polycrystalline silicon layer ~~(4)~~ is less than or equal to 10^{16} cm^{-3}, and preferably less than or equal to 10^{14} cm^{-3}.

4. Method according to one of claims 1 to 3, ~~characterised in that~~ wherein the polycrystalline silicon layer ~~(4)~~ is between 100 and 10000 nm thick, and preferably between 300 and 3000 nm.

5. Method according to one of claims 1 to 4, ~~characterised in that~~ wherein the dielectric material of layer ~~(5)~~ formed between the substrate ~~(1)~~ and the polycrystalline silicon layer ~~(4)~~ is silicon oxide.

6. Base substrate for the formation of a semiconductor on insulator type substrate comprising a silicon substrate ~~(1)~~ with an electrical resistivity of more than 500 Ohm.cm and a polycrystalline silicon layer ~~(4)~~, ~~characterised in that~~ wherein it comprises a dielectric material layer

(5), different from a native oxide layer, between the substrate (1) and the polycrystalline silicon layer (4), between 0.5 and 10 nm thick.

7. Semiconductor on insulator type substrate for radiofrequency applications, comprising a silicon substrate (1) with an electrical resistivity of more than 500 Ohm.cm, followed successively by a polycrystalline silicon layer (4), a dielectric material layer (2) and a monocrystalline semiconducting material layer (3), ~~characterised in that~~ wherein it comprises a dielectric material layer (5), different from a native oxide layer, between the substrate (1) and the polycrystalline silicon layer (4), with a thickness less than or equal to 2 nm, and in that the electrical resistivity of the polycrystalline silicon layer (4) is equal to at least that of substrate (1).

8. Substrate according to claim 7, ~~characterised in that~~ wherein the concentration of doping agents in the polycrystalline silicon layer (4) is less than or equal to 10^{16} cm^{-3}, and is preferably less than or equal to 10^{14} cm^{-3}.

9. Substrate according to either claim 7 or 8, ~~characterised in that~~ wherein the thickness of the polycrystalline silicon layer (4) is between 100 and 10000 nm, and preferably between 300 and 3000 nm.

10. Radiofrequency device comprising components formed in or on the layer (3) of semiconducting material in a semiconductor on insulator type substrate according to one of claims 7 to 9.