

ABSTRACT

METHOD OF MANUFACTURING A MONOCRYSTALLINE LAYER, IN
PARTICULAR A PIEZOELECTRIC LAYER

The invention concerns a method of manufacturing a monocrystalline layer (10), characterised by the fact that it includes the following successive steps:

- provision of a donor substrate (100) comprising a piezoelectric material of composition ABO_3 , where

A consists of at least one element from among: Li, Na, K, H, Ca;

B consists of at least one element from among: Nb, Ta, Sb, V;

- supply of a receiver substrate (110),

- transfer of a layer (102) called the "seed layer" from the donor substrate (100) on to the receiver substrate (110), by bonding the donor substrate on the receiver substrate such that the seed layer (102) is at the bonding interface, followed by thinning of the donor substrate (100) as far as the said seed layer (102);

- growth, by epitaxy on piezoelectric material ABO_3 of the seed layer (102), of a monocrystalline layer (103) of composition $A'B'O_3$, where:

A' consists of a least one of the following elements: Li, Na, K, H;

B' consists of a least one of the following elements: Nb, Ta, Sb, V;

A' is different from A or B' is different from B.

Figure 3E