Abstract

Semiconductor wafer and process for its production

The present invention relates to a semiconductor wafer comprising the following layers in the given order:
- a monocrystalline substrate wafer (1) consisting essentially of silicon,
- a first amorphous intermediate layer (2) comprising an electrically insulating material and having a thickness of 2 nm to 100 nm,
- a monocrystalline first oxide layer (3) having a cubic Ia-3 crystal structure, a composition of $(Me1_2O_3)_{1-x}(Me2_2O_3)_x$ wherein each of Me1 and Me2 is a metal and wherein $0 \leq x \leq 1$, and a lattice constant which differs from the lattice constant of the material of the substrate wafer by 0 % to 5 %.

The invention also relates to a process for manufacturing this semiconductor wafer by epitaxial deposition.