

Title (en)

HEAT TREATMENT FOR IMPROVING THE QUALITY OF A TAKEN THIN LAYER

Title (de)

WÄRMEBEHANDLUNG ZUR VERBESSERUNG DER QUALITÄT EINER GENOMMENEN DÜNNEN SCHICHT

Title (fr)

TRAITEMENT THERMIQUE D'AMELIORATION DE LA QUALITE D'UNE COUCHE MINCE PRELEVEE

Publication

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Application

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Abstract (en)

[origin: US2005196937A1] Methods for forming a semiconductor structure are described. In an embodiment, the technique includes providing a donor wafer having a first semiconductor layer and a second semiconductor layer on the first layer and having a free surface, implanting atomic species through the free surface of the second layer to form a zone of weakness zone in the first layer, and bonding the free surface of the second layer to a host wafer. The method also includes supplying energy to detach at the zone of weakness a semiconductor structure comprising the host wafer, the second layer and a portion of the first layer, conducting a bond strengthening step on the structure after detachment at a temperature of less than about 800° C. to improve the strength of the bond between the second layer and the host wafer, and selectively etching the first layer portion to remove it from the structure and to expose a surface of the second layer. The implanting step includes implantation parameters chosen to minimize surface roughness resulting from detachment at the zone of weakness.

IPC 8 full level

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