

Title (en)

RE-CRYSTALLIZATION OF SEMICONDUCTOR SURFACE FILM AND DOPING OF SEMICONDUCTOR BY ENERGETIC CLUSTER IRRADIATION

Title (de)

REKRISTALLISIERUNG EINES HALBLEITEROBERFLÄCHENFILMS UND HALBLEITERDOTIERUNG MITTELS ENERGETISCHER CLUSTERBESTRAHLUNG

Title (fr)

RECRISTALLISATION DE FILMS SUPERFICIELS DE SEMI-CONDUCTEURS PAR IRRADIATION ENERGETIQUE D'AMAS

Publication

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Application

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Abstract (en)

[origin: WO2004053945A2] Method of gas-cluster ion beam 128 processing of damaged semiconductor films 308 for re-crystallization and/or for activating a dopant in a semiconductor film 308 with reduced dopant diffusion, and semiconductor devices formed using the method. The method is useful, for example, for restoring crystallinity and/or for electrically activating a dopant species after shallow dopant ion implantation for forming shallow junctions. In one embodiment of the method, dopant atoms incorporated into the gas-clusters produces shallow doping of a semiconductor 302 with simultaneous electrical activation of the dopant atoms and re-crystallization of the semiconductor.

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IPC 8 full level

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