

Title (en)

METHOD FOR REMOVING RESIDUAL EXTRINSIC IMPURITIES IN AN N TYPE ZNO OR ZNMGO SUBSTRATE, AND FOR ACCOMPLISHING P TYPE DOPING OF SAID SUBSTRATE

Title (de)

VERFAHREN ZUR ENTFERNUNG EXTRINSISCHER RESTUNREINHEITEN IN EINEM ZNO- ODER ZNMGO-SUBSTRAT DES TYPUS N UND FÜR DIE ERREICHUNG EINER DOTIERUNG DES TYPUS P BESAGTEN SUBSTRATS

Title (fr)

PROCÉDÉ POUR ÉLIMINER DES IMPURETÉS EXTRINSÈQUES RÉSIDUELLES DANS UN SUBSTRAT EN ZnO OU EN ZnMgO DE TYPE N, ET POUR RÉALISER UN DOPAGE DE TYPE P DE CE SUBSTRAT

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Application

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Abstract (en)

[origin: WO2011151409A1] The invention relates to a method for purifying an n-type substrate made of ZnO and/or ZnMgO for reducing or removing the residual extrinsic impurities of the substrate with a view to p type doping at least a portion of the substrate, wherein a reactive species having a strong chemical affinity with at least one of the residual extrinsic impurities and/or capable of creating crystalline defects is introduced into at least one area of the substrate, said reactive species consisting of P, thus creating at least one so-called "getter" zone in the substrate, said zone being capable of trapping said residual extrinsic impurities and/or in which zone the residual extrinsic impurities are trapped; the substrate then annealed to diffuse the residual extrinsic impurities toward the "getter" zone, and/or out of the "getter" zone, preferably toward at least one surface of the substrate. The invention further relates to a method for preparing a substrate made of p-doped ZnO and/or ZnMgO including at least one step of purifying an n-type substrate made of ZnO and/or ZnMgO by the above purification method, wherein one or more reactive specie(s) not limited to phosphorus alone is/are employed.

IPC 8 full level

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CPC (source: EP US)

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