

Title (en)

METHOD FOR ADJUSTING THE RESISTIVITY OF A SEMI-CONDUCTIVE INGOT DURING THE PRODUCTION THEREOF

Title (de)

VERFAHREN ZUR ANPASSUNG DES WIDERSTANDS EINES HALBLEITENDEN BLOCKS WÄHREND DER HERSTELLUNG DAVON

Title (fr)

PROCÉDÉ POUR AJUSTER LA RÉSISTIVITÉ D'UN LINGOT SEMI-CONDUCTEUR LORS DE SA FABRICATION

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Application

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Abstract (en)

[origin: WO2017102832A1] The invention relates to a method for manufacturing ingots made of a semi-conductive material, including the following steps: crystallising under specific draft conditions a first ingot, referred to as the reference ingot, from a first molten load containing oxygen; measuring the interstitial oxygen concentration in various regions distributed along the reference ingot; measuring, in the various regions of the reference ingot, the concentration of thermal donors formed during the crystallisation of the reference ingot; determining the actual durations of an annealing process for forming the thermal donors, undergone by the various regions of the reference ingot during the crystallisation thereof, from the measurements of the interstitial oxygen concentration and the concentration of thermal donors; calculating the thermal donor concentration values to be obtained so that a second ingot has, after crystallisation, an axial electric resistivity according to a target profile; determining an axial profile of interstitial oxygen concentration corresponding to the target axial resistivity profile, from the thermal donor concentration values and the actual durations of the annealing process for forming the thermal donors; crystallising under said specific draft conditions the second ingot from a second molten load containing oxygen, the oxygen concentration of the second molten load being adjusted throughout the crystallisation so as to obtain, in the second ingot, the axial profile of interstitial oxygen concentration.

IPC 8 full level

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