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(71) Applicant: MEMC ELECTRONIC MATERIALS, INC. [US/US]; 501 Pearl Drive, P.O. Box 8, St. Peters, MO 63376 (US).

(72) Inventors: FALSTER, Robert, J.; Via Caradosso, 11, I–20123 Milano (IT). VORONKOV, Vladimir; ul. 26 Bakinskih Comissarov, 3–1–454, Moscow, 117571 (RU).

(74) Agents: HEJLEK, Edward, J. et al.; Senniger, Powers, Leavitt & Roedel, 16th floor, One Metropolitan Square, St. Louis, MO 63102 (US).

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(54) Title: PROCESS FOR PREPARING DEFECT FREE SILICON CRYSTALS WHICH ALLOWS FOR VARIABILITY IN PROCESS CONDITIONS

(57) Abstract

A process for growing a single crystal silicon ingot having an axially symmetric region substantially free of agglomerated intrinsic point defects. The ingot is grown generally in accordance with the Czochralski method; however, the manner by which the ingot is cooled from the temperature of solidification to a temperature which is in excess of about 900 °C is controlled to allow for the diffusion of intrinsic point defects, such that agglomerated defects do not form in this axially symmetric region. Accordingly, the ratio v/G_0 is allowed to vary axially within this region, due to changes in v or G_0, between a minimum and maximum value by at least 5 %.