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(21) International Application Number: PCT/US98/14208 (22) International Filing Date: 8 July 1998 (08.07.98) (30) Priority Data: 08/896,177 17 July 1997 (17.07.97) US (71) Applicant: MEMC ELECTRONIC MATERIALS, INC. [US/US]; 501 Pearl Drive, P.O. Box 8, St. Peters, MO 63376 (US). (72) Inventor: JAVIDI, Massoud; 819B Foxspring Drive, Chester- field, MO 63017 (US). (74) Agents: HEJLEK, Edward, J. et al.; Senniger, Powers, Leavitt & Roedel, 16th floor, One Metropolitan Square, St. Louis, MO 63102 (US).		(81) Designated States: CN, JP, KR, SG, European patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE). Published <i>With international search report.</i>
(54) Title: METHOD AND SYSTEM FOR CONTROLLING GROWTH OF A SILICON CRYSTAL (57) Abstract Method and system for use with a Czochralski crystal growing apparatus. The crystal growing apparatus has a heated crucible for melting solid silicon to form a melt from which the single crystal is pulled. The melt has an upper surface above which unmelted silicon is exposed until melted. A camera generates images of a portion of the interior of the crucible. Each image includes a plurality of pixels and each pixel has a value representative of an optical characteristic of the image. An image processor processes the images as a function of the pixel values to detect edges in the images and groups the detected edges as a function of their locations in the images to define objects in the images. The defined objects each include one or more pixels and at least one of the defined objects is representative of a portion of solid silicon which is visible on the melt surface. A control circuit determines a parameter representative of a condition of the crystal growing apparatus based on the defined objects and controls the crystal growing apparatus in response to the determined parameter.		