PCT WORLD INTELLECTUAL PROPERTY ORGANIZATION
International Bureau

INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(51) International Patent Classification 7 : H01L 21/304 — A1

(11) International Publication Number: WO 00/36637

(43) International Publication Date: 22 June 2000 (22.06.00)

(21) International Application Number: PCT/US99/27513

(22) International Filing Date: 19 November 1999 (19.11.99)

(30) Priority Data:

60/112,438	16 December 1998 (16.12.98)	US
09/404,428	23 September 1999 (23.09.99)	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
With international search report.
With amended claims.

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

(72) Inventor: XIN, Yun-Biao; MEMC Electronic Materials, Inc., 5001 Pearl Drive, P.O. Box 8, St. Peters, MO 63376 (US).

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

(54) Title: METHOD OF PROCESSING SEMICONDUCTOR WAFERS TO BUILD IN BACK SURFACE DAMAGE

(57) Abstract

A method of processing a semiconductor wafer sliced from a single-crystal ingot includes lapping front and back surfaces of the wafer to reduce the thickness of the wafer and to improve the flatness of the wafer. The front surface is subjected to fine grinding to reduce the damage on the front surface while leaving damage on the back surface intact. The front and back surfaces are simultaneously polished to improve the flatness of the wafer and to reduce wafer damage on the front and back surfaces. The wafer damage remaining on the back surface is greater than the wafer damage on the front surface. The wafer damage remaining on the back surface facilitates gettering.

