9906278-B
IPDS

PCT WORLD INTELLECTUAL PROPERTY ORGANIZATION
International Bureau

INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(51) International Patent Classification : H01L 21/306 — A1

(11) International Publication Number: **WO 98/54759**

(43) International Publication Date: 3 December 1998 (03.12.98)

(21) International Application Number: PCT/US98/11225

(22) International Filing Date: 27 May 1998 (27.05.98)

(30) Priority Data:

60/047,874	29 May 1997 (29.05.97)	US
09/082,906	21 May 1998 (21.05.98)	US

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

(72) Inventors: SHIVE, Larry, W.; 5 Ardennais, St. Peters, MO 63376 (US). VITUS, Carissima, M.; 73 Catawba Court, St. Charles, MO 63304 (US).

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

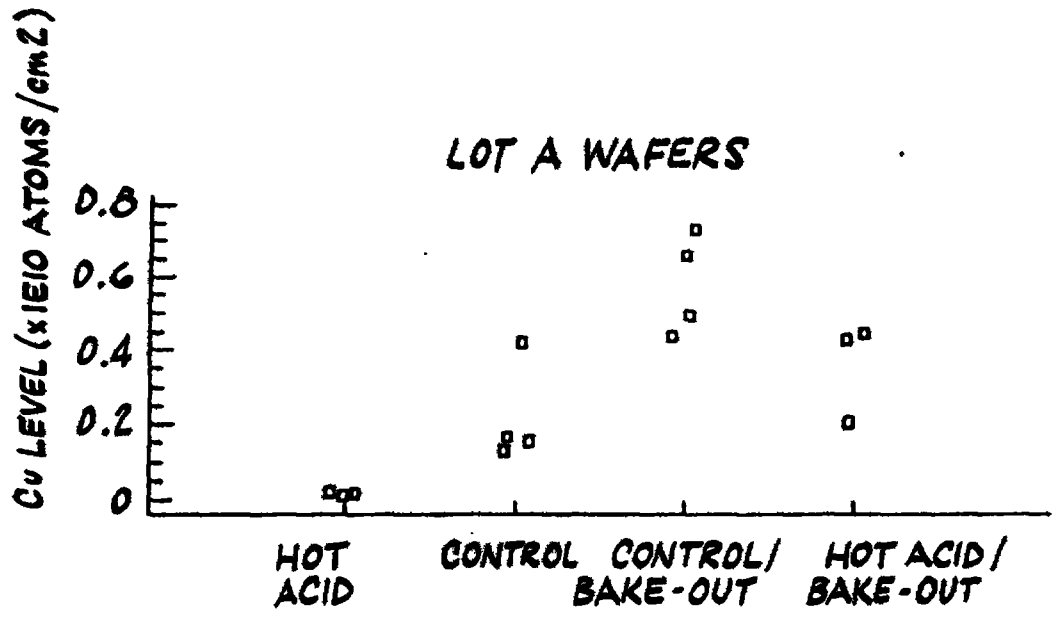
(81) Designated States: CN, JP, KR, SG, European patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE).

Published

With international search report.

Before the expiration of the time limit for amending the claims and to be republished in the event of the receipt of amendments.

(54) Title: PROCESS FOR THE REMOVAL OF COPPER AND OTHER METALLIC IMPURITIES FROM SILICON



(57) Abstract

A process for removing a metallic contaminant from a nonpatterned silicon wafer. In the process, the wafer is annealed by immersing it for at least about 0.1 hours in an acidic solution which is heated to a temperature of at least about 125 °C in order to diffuse the metal to the surface of the wafer. As the diffused metal reaches the wafer surface, it is oxidized and complexed by the acidic solution and removed from the wafer surface.