Title (en)

METHODS FOR IMPROVING SEMICONDUCTOR PROCESSING

Title (de)

METHODEN ZUR VERBESSERUNG DER HALBLEITERHERSTELLUNG

Title (fr)

PROCEDES D'AMELIORATION DES TRAITEMENTS DE SEMI-CONDUCTEURS

Publication

EP 0741909 A4 19980107 (EN)

Application

EP 95907316 A 19950112

Priority

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Abstract (en)

[origin: WO9520823A1] Novel processes for improving uniformity, reliability and throughput of processes used in semiconductor manufacturing. In one process of the present invention used to reduce moisture contamination, a substrate is placed in a chamber (202). The chamber is then evacuated (204). Next, the chamber is refilled with dry, heated gas to desorb any moisture attached to the surface of the substrate (206). The chamber is then evacuated to remove the heated gas and any moisture desorbed from the surface of the substrate (208). The process can be repeated to ensure complete removal of all moisture present in the chamber and on the substrate (210). In another process, used to precisely control gas temperature, gases used in semiconductor process are heated to reaction temperature prior to injection into a reaction vessel.

IPC 1-7

H01L 21/324; H01L 21/477

IPC 8 full level

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CPC (source: EP KR)

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Citation (search report)

- [PX] WO 9427315 A1 19941124 - IMEC INTER UNI MICRO ELECTR [BE], et al
- [Y] EP 0273470 A2 19880706 - SGS MICROELETTRONICA SPA [IT]
- [PY] EP 0632144 A2 19950104 - APPLIED MATERIALS INC [US]
- [PX] WO 9613067 A1 19960502 - OHMI TADAHIRO [JP]
- [X] WRESH W P ET AL: "VACUUM INTEGRITY IMPROVEMENT AND CONTROL IN SPUTTER SYSTEMS FOR MEMORY DEVICES", AIP CONFERENCE PROCEEDINGS, 3 April 1989 (1989-04-03), pages 147 - 150, XP000572462
- [X] PATENT ABSTRACTS OF JAPAN vol. 16, no. 14 (E - 1154) 14 January 1992 (1992-01-14)
- [A] PATENT ABSTRACTS OF JAPAN vol. 7, no. 283 (M - 263) 16 December 1983 (1983-12-16)
- [A] LAURENTIS DE E ET AL: "MICROCONTAMINATION REDUCTION AND CORROSION PREVENTION FOR ALUMINUM ETCH THROUGH LOADLOCK IMPROVEMENTS", EXTENDED ABSTRACTS, vol. 92/1, 1 January 1992 (1992-01-01), pages 177/178, XP000549272
- See references of WO 9520823A1

Designated contracting state (EPC)

DE FR GB IE IT

DOCDB simple family (publication)

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DOCDB simple family (application)

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