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(54) Title: SYSTEM AND METHOD FOR REMOVAL OF PHOTORESIST IN TRANSISTOR FABRICATION FOR INTEGRATED CIRCUIT MANUFACTURING

(57) Abstract: In a technique for fabricating an integrated circuit to include an active device structure which supports an electrical interconnect structure, a photoresist layer is used prior to forming an electrical interconnect structure on the active device structure. The photoresist and related residues are removed by exposing the photoresist and exposed regions of the active device structure to one or more reactive species that are generated using a gas mixture including hydrogen gas, as a predominant source of the reactive species, in a plasma source such that the photoresist and residues are continuously exposed to hydrogen-based reactive species. An associated system architecture is described which provides for a substantial flow of hydrogen gas in the process chamber.



WO 2005/038873 A3

INTERNATIONAL SEARCH REPORT

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A. CLASSIFICATION OF SUBJECT MATTER

IPC(8) : H01L 21/302

US CL : 438/714

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

U.S. : 438/714

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

C. DOCUMENTS CONSIDERED TO BE RELEVANT

| Category * | Citation of document, with indication, where appropriate, of the relevant passages | Relevant to claim No. |
|------------|---|-----------------------|
| X | US 6,080,529 (YE et al) 27 June 2000 (27.06.2000), column 12, lines 38-39, and figure 6, and column 13, lines 31-32 | 1-5 |
| X | US 6,599,829 B2 (SMITH et al) 29 July 2003 (29.07.2003), column 4, lines 44, 47 and 51 | 6-8 |
| --- | | ----- |
| Y | | 9-46 |
| Y | US 6,536,449 B2 (RANFT et al) 25 Mars 2003 (25.03.2003), column 6, lines 9, 13 and 28, and column 5, line 60 | 9-46 |
| Y | US 2001/0053594 A1 (XIANG et al) 20 December 2001 (20.12.2001), page 4, paragraph 0056 | 14-46 |

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☐ See patent family annex.

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