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(71) Applicant: APPLIED MATERIALS, INC. [US/US]; 3050 Bowers Avenue, Santa Clara, CA 95054 (US).

(72) Inventors: QIAN, Xue-Yu; 230 Rose Drive, Milpitas, CA 95035 (US). SUN, Zhi-Wen; 126 Destry Court, San Jose, CA 95136 (US). JIANG, Weinan; 3089 Estruscan Drive, San Jose, CA 95135 (US). CHEN, Arthur, Y.; 744 Bodega Court, Fremont, CA 94539 (US). YIN, Gerald, Zheyao; 10132 Bilich Place, Cupertino, CA 95014 (US). YANG, Ming-Hsun; 3F, No. 126, Ln 120, Hulin Street, Taipei (CN). KUO, Ming-Hsun; 54 Jeng-I Road, Keelung (CN). MUI, David, S., L.; 1848 Sheri Ann Circle, San Jose, CA 95131 (US). CHINN, Jeffrey; 605 St. Croix Lane, Foster City, CA 94404 (US). PAN, Shaoher, X.; 1133 Kelez Drive, San Jose, CA 95120 (US). WANG, Xikun; 1281 Ayala Drive #2, Sunnyvale, CA 94086 (US).

(74) Agents: BERNADICOU, Michael, A. et al.; Blakely, Sokoloff, Taylor & Zafman LLP, 17th floor, 12400 Wilshire Boulevard, Los Angeles, CA 90025 (US).

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(54) Title: SELF-CLEANING ETCH PROCESS

(57) Abstract

A process for etching a substrate (25) in an etching chamber (30), and simultaneously cleaning a thin, non-homogeneous, etch residue deposited on the surfaces of the walls (45) and components of the etching chamber (30). In the etching step, process gas comprising etchant gas is used to etch a substrate (25) in the etching chamber (30) thereby depositing etch residue inside the chamber (30). Cleaning gas is added to the process gas for a sufficient time and in a volumetric flow ratio that is sufficiently high, to react with and remove substantially all the etch residue deposited by the process gas. The present method advantageously cleans the etch residue in the chamber (30), during the etching process, and without use of separate cleaning, conditioning, and seasoning process steps.

