(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property Organization
International Bureau

(43) International Publication Date
15 December 2005 (15.12.2005)

PCT

(10) International Publication Number
WO 2005/119775 A3

(51) International Patent Classification:
H01L 23/544 (2006.01) *H01L 21/66* (2006.01)

(21) International Application Number:
PCT/US2005/010474

(22) International Filing Date: 29 March 2005 (29.03.2005)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
10 2004 026 145.8 28 May 2004 (28.05.2004) DE
11/058,706 15 February 2005 (15.02.2005) US

(71) Applicant *(for all designated States except US)*: **ADVANCED MICRO DEVICES, INC.** [US/US]; One AMD Place, Mail Stop 68, P.O. Box 3453, Sunnyvale, CA 94088-3453 (US).

(72) Inventors; and

(75) Inventors/Applicants *(for US only)*: **LANGER, Eckhard** [DE/DE]; Schweizerstrasse 7, 01445 Radebeul (DE). **ZSCHECH, Ehrenfried** [DE/DE]; Cochemer Weg 20, 01468 Moritzburg (DE).

(74) Agent: **DRAKE, Paul, S.**; Advanced Micro Devices, Inc., 5204 East Ben White Boulevard, Mail Stop 562, Austin, TX 78741 (US).

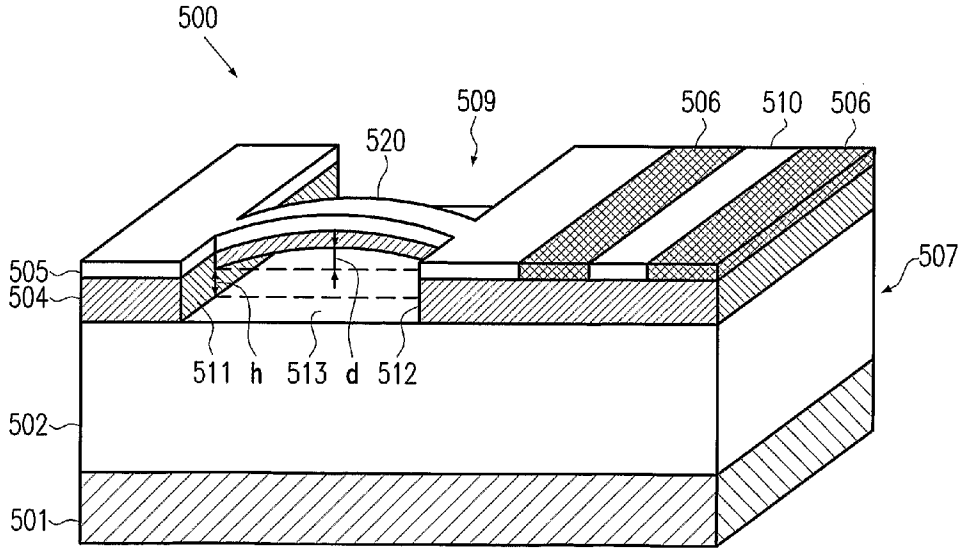
(81) Designated States *(unless otherwise indicated, for every kind of national protection available)*: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SM, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

(84) Designated States *(unless otherwise indicated, for every kind of regional protection available)*: ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Published:
— *with international search report*

[Continued on next page]

(54) **Title:** SEMICONDUCTOR STRUCTURE COMPRISING A STRESS SENSITIVE ELEMENT AND METHOD OF MEASURING A STRESS IN A SEMICONDUCTOR STRUCTURE



(57) **Abstract:** A semiconductor structure comprises a stress sensitive element. A property of the stress sensitive element is representative of a stress in the semiconductor structure (100). Additionally, the semiconductor structure may comprise an electrical element (110). The stress sensitive element and the electrical element comprise portions of a common layer structure (107). Analyzers may be adapted to determine a property of the stress sensitive element being representative of a stress in the semiconductor structure (100) and a property of the electrical element (110). The property of the stress sensitive element maybe determined and the manufacturing process may be modified based on the determined property of the stress sensitive element. The property of the electrical element (110) may be related to the property of the stress sensitive element in order to investigate an influence of stress on the electrical element.

WO 2005/119775 A3

(88) Date of publication of the international search report:
12 April 2007

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.