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

(19) World Intellectual Property Organization
International Bureau

(43) International Publication Date
5 June 2008 (05.06.2008)

PCT

(10) International Publication Number
WO 2008/066884 A1

(51) International Patent Classification:
H01L 21/768 (2006.01)

(21) International Application Number:
PCT/US2007/024564

(22) International Filing Date:
29 November 2007 (29.11.2007)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
10 2006 056 620.3
30 November 2006 (30.11.2006) DE
1776155 11 July 2007 (11.07.2007) 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)*: **STRECK, Christof** [DE/DE]; Wettinstrasse 16, 01640 Coswig (DE). **KAHLERT, Volker** [DE/DE]; Dora Stock Str 10, 01217 Dresden (DE).

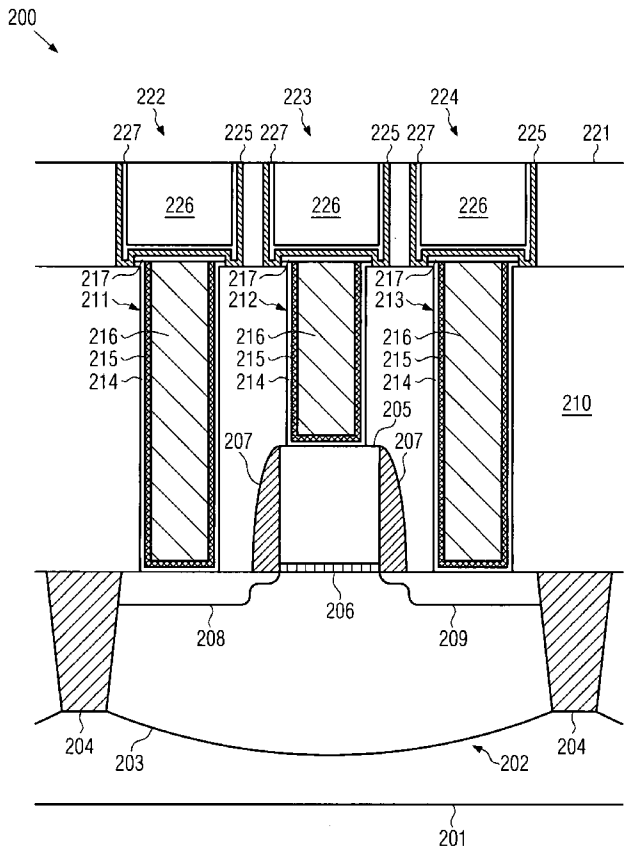
(74) Agent: **DRAKE, Paul, S.**; ADVANCED MICRO DEVICES, INC., 5204 East Ben White Boulevard, Mail Stop 562, Austin, TX 78741 (US).

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

[Continued on next page]

(54) Title: SEMICONDUCTOR STRUCTURE WITH INTERCONNECT COMPRISING SILVER AND METHOD OF FORMING THE SAME



(57) Abstract: A method of forming a semiconductor structure comprises providing a semiconductor substrate comprising a layer of a dielectric material (210). A recess is provided in the layer of dielectric material. The recess is filled with a material comprising silver (216), possibly encapsulated by rhodium (214), (217).

WO 2008/066884 A1

European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, LV, MC, MT, 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*

— *before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments*