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

(19) World Intellectual Property Organization
International Bureau

(43) International Publication Date
3 April 2008 (03.04.2008)

PCT

(10) International Publication Number
WO 2008/038158 A2

(51) International Patent Classification: Not classified

(21) International Application Number:
PCT/IB2007/004084

(22) International Filing Date:
25 September 2007 (25.09.2007)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
60/848,043 26 September 2006 (26.09.2006) US
11/669,664 31 January 2007 (31.01.2007) US

(71) Applicant *(for all designated States except US)*: **HYMITE A/S** [DK/DK]; Diplomvej, Bldg. 376, DK-2800 Kgs. Lyngby (DK).

(72) Inventor; and

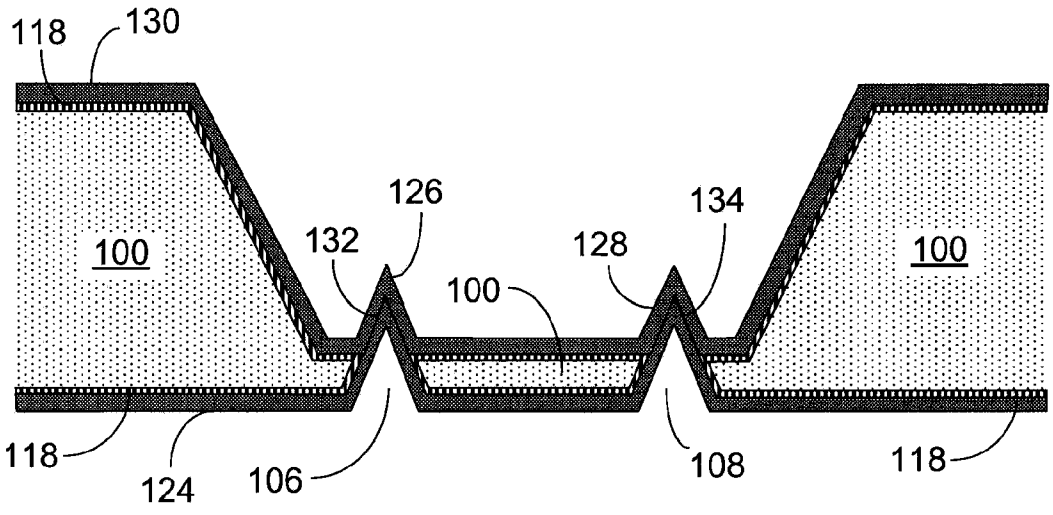
(75) Inventor/Applicant *(for US only)*: **SHIV, LIOR** [IL/DK]; Kildedalen 53, DK-3400 Hilleroed (DK).

(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, DE, 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), 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:
— *without international search report and to be republished upon receipt of that report*
— *the filing date of the international application is within two months from the date of expiration of the priority period*

(54) **Title:** FORMATION OF THROUGH-WAFER ELECTRICAL INTERCONNECTIONS AND OTHER STRUCTURES USING A THIN DIELECTRIC MEMBRANE



(57) **Abstract:** Providing through-wafer interconnections in a semiconductor wafer includes forming a sacrificial membrane in a pre-existing semiconductor wafer, depositing metallization over one side of the wafer so as to cover exposed portions of the sacrificial membrane facing the one side of the wafer, removing exposed portions of the sacrificial membrane facing the other side of the wafer, and depositing metallization over the other side of the wafer so as to contact the previously deposited metallization. Techniques also are disclosed for providing capacitive and other structures using thin metal membranes.

WO 2008/038158 A2