

(19) World Intellectual Property Organization
International Bureau



(43) International Publication Date
27 April 2006 (27.04.2006)

PCT

(10) International Publication Number
WO 2006/044690 A2

(51) International Patent Classification:
C03C 15/00 (2006.01) **G03C 1/492** (2006.01)

(21) International Application Number:
PCT/US2005/037063

(22) International Filing Date: 14 October 2005 (14.10.2005)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
10/967,740 18 October 2004 (18.10.2004) US

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(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, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, LY, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NG, 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.

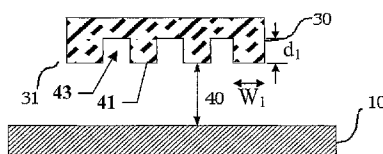
(84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, LV, 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:

— without international search report and to be republished upon receipt of that report

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.

(54) Title: LOW-K DIELECTRIC FUNCTIONAL IMPRINTING MATERIALS



(57) Abstract: In a substantially planar circuit, the conductors are separated by an inorganic material with a dielectric constant of less than about 3.0. The dielectric layers are formed in a process that includes defining trenches and/or vias for the conductors by imprinting an initially planar layer of a radiation curable composition. The imprinting die is preferably UV transparent such that the composition is UV cured while the imprint die is in place. The curable composition includes an organic modified silicate compound and a second decomposable organic component, the latter forming nanometer scale pores as the organic compounds are subsequently decomposed to provide a polysilicate matrix. The pores reduce the effective dielectric constant from that of otherwise dense silicon dioxide.



WO 2006/044690 A2