

(19) World Intellectual Property
Organization
International Bureau



(43) International Publication Date
6 October 2005 (06.10.2005)

PCT

(10) International Publication Number
WO 2005/093513 A2

(51) International Patent Classification⁷: **G03F 7/00**

Joseph, E.; 31 Wexford Court, Phillipsburg, NJ 08865 (US). **TOUKHY, Medhat, A.**; 10 Ewing Drive, Flemington, NJ 08822 (US).

(21) International Application Number:
PCT/IB2005/000773

(22) International Filing Date: 23 March 2005 (23.03.2005)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
10/808,884 25 March 2004 (25.03.2004) 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, DE, 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, UZ, VC, VN, YU, ZA, ZM, ZW.

(71) Applicant: **AZ ELECTRONIC MATERIALS USA CORP.** [US/US]; 70 Meister Avenue, Somerville, NJ 08876 (US).

(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).

(72) Inventors: **SUI, Yu**; c/o Clariant (Japan) k. k., 3810 Chihama, Daito-cho, Ogasa-Gun, Shizuoka 437-1496 (JP). **WU, Hengpeng**; Apt. 6, 186 Capricon Drive, Hillsborough, NJ 08844 (US). **KANG, Wenbing**; c/o Clariant (Japan) k. k., 3810 Chihama, Daito-cho, Ogasa-gun, Shizuoka 437-1496 (JP). **NEISSER, Mark, O.**; 12 Indian Purchase, Whitehouse, Station, NJ 08889 (US). **KATAYAMA, Tomohide**; c/o Clariant (Japan) K. K., 3810 Chihama, Daito-Cho, Ogasa-Gun, Shizuoka 437-1496 (JP). **DING-LEE, Shuji, S.**; 9 Winthrop Drive, Branchburg, NJ 08876 (US). **HISHIDA, Aritaka**; 50 Westcott Court, Bedminster, NJ 07921 (US). **OBERLANDER,**

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: POSITIVE-WORKING PHOTOIMAGEABLE BOTTOM ANTIREFLECTIVE COATING

(57) Abstract: The present invention relates to a positive bottom photoimageable antireflective coating composition which is capable of being developed in an aqueous alkaline developer, wherein the antireflective coating composition comprises a polymer comprising at least one recurring unit with a chromophore group and one recurring unit with a hydroxyl and/or a carboxyl group, a vinyl ether terminated crosslinking agent, and optionally, a photoacid generator and/or an acid and/or a thermal acid generator. The invention further relates to a process for using such a composition.



WO 2005/093513 A2