

Title (en)

LOW REFRACTIVE INDEX POLYMERS AS UNDERLAYERS FOR SILICON-CONTAINING PHOTORESISTS

Title (de)

POLYMERE MIT NIEDRIGEM BRECHUNGSINDEX ALS UNTERSCHICHTEN FÜR SILICIUMHALTIGE PHOTORESISTEN

Title (fr)

POLYMERES A FAIBLE INDICE DE REFRACTION UTILISES EN TANT QUE SOUS-COUCHES DANS DES PHOTORESISTS CONTENANT DU SILICIUM

Publication

EP 1825325 A4 20100526 (EN)

Application

EP 05857596 A 20051130

Priority

- US 2005043210 W 20051130
- US 1397104 A 20041216
- US 19556605 A 20050802

Abstract (en)

[origin: WO2006096221A1] A new underlayer composition that exhibits high etch resistance and improved optical properties is disclosed. The underlayer composition comprises a vinyl or acrylate polymer, such as a methacrylate polymer, the polymer comprising at least one substituted or unsubstituted naphthalene or naphthol moiety, including mixtures thereof. Examples of the polymer of this invention include: formula (I), (II), (III), (IV), where each R₁ is independently selected from an organic moiety or a halogen; each A is independently a single bond or an organic moiety; R₂ is hydrogen or a methyl group; and each X, Y and Z is an integer of 0 to 7, and Y+Z is / or less. The organic moiety mentioned above may be a substituted or unsubstituted hydrocarbon selected from the group consisting of a linear or branched alkyl, halogenated linear or branched alkyl, aryl, halogenated aryl, cyclic alkyl, and halogenated cyclic alkyl, and any combination thereof. The compositions are suitable for use as planarizing underlayer in a multilayer lithographic process, including a trilayer lithographic process.

IPC 8 full level

G03C 1/76 (2006.01); **G03F 7/09** (2006.01)

CPC (source: EP)

G03F 7/091 (2013.01); **G03F 7/094** (2013.01)

Citation (search report)

- [X] WO 03058345 A2 20030717 - CLARIANT INT LTD [CH], et al
- [X] US 2002076641 A1 20020620 - CHOI SANG-JUN [KR], et al
- [X] US 2004072420 A1 20040415 - ENOMOTO TOMOYUKI [JP], et al
- [X] EP 1109066 A1 20010620 - FUJI PHOTO FILM CO LTD [JP]
- See references of WO 2006096221A1

Designated contracting state (EPC)

AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HU IE IS IT LI LT LU LV MC NL PL PT RO SE SI SK TR

DOCDB simple family (publication)

WO 2006096221 A1 20060914; EP 1825325 A1 20070829; EP 1825325 A4 20100526

DOCDB simple family (application)

US 2005043210 W 20051130; EP 05857596 A 20051130