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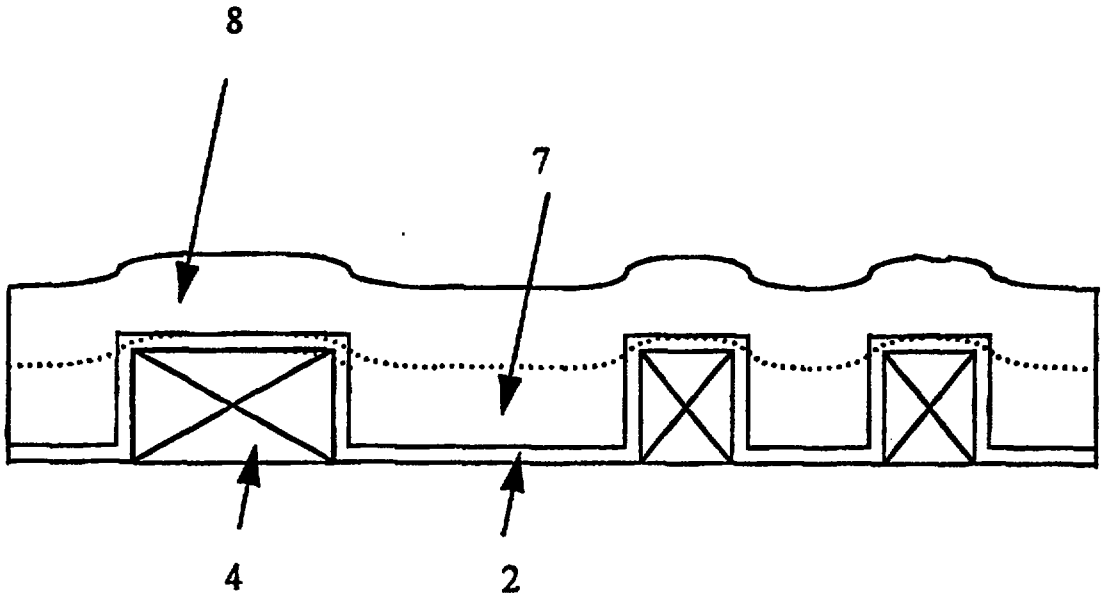
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(71) Applicant: ALLIEDSIGNAL INC. [US/US]; 101 Columbia Road, P.O. Box 2245, Morristown, NJ 07962–2245 (US).

(72) Inventors: YANG, Jing, Jun; 20800 Homestead Road, 17E, Cupertino, CA 95014 (US). FORESTER, Lynn; 2233 Gunar Drive, San Jose, CA 95124 (US). CHOI, Dong, Kyu; 506–1401, Ssang Yong Apt., Ha–Tap Dong, Bun–Dang Gu, Sung–Nam Si, Kyoungki Do 463–075 (KR). WANG, Shi–Qing; 495 Virginia Avenue, Campbell, CA 95008 (US). HENDRICKS, Neil, H.; 16525 Habitat Trail, Sonora, CA 95370 (US).

(74) Agent: CRISS, Roger, H.; AlliedSignal Inc., Law Dept.(E.Iannarone), 101 Columbia Road, P.O. Box 2245, Morristown, NJ 07962–2245 (US).

(54) Title: INTEGRATION OF LOW–K POLYMERS INTO INTERLEVEL DIELECTRICS USING CONTROLLED ELECTRON–BEAM RADIATION



(57) Abstract

A process for the preparation of substrates used in the manufacture of integrated circuits wherein spin–on low dielectric constant (low–k) polymer films are applied on semiconductor substrates. A non–etchback processing of spin–on low–k polymer films, without losing the low dielectric constant feature of the film, especially inbetween metal lines, is achieved utilizing electron beam radiation. A polymeric dielectric film (7, 8) is applied and dried onto a substrate and exposed to electron beam radiation under conditions sufficient to partially cure the dielectric layer. The exposing forms a relatively more hardened topmost portion (8) of the dielectric layer and a relatively less hardened underlying portion (7) of the dielectric layer.