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(21) International Application Number: PCT/US00/10214 (22) International Filing Date: 14 April 2000 (14.04.00) (30) Priority Data: 09/291,510 14 April 1999 (14.04.99) ** 09/291,511 14 April 1999 (14.04.99) ** (71) Applicant: ALLIEDSIGNAL INC. [US/US]; 101 Columbia Avenue, P.O. Box 2245, Morristown, NJ 07960 (US). (72) Inventors: CASE, Suzanne; 1543 Wolfe Road, Sunnyvale, CA 94087 (US). LEUNG, Roger, Yu-Kwan; 1351 Rimrock Drive, San Jose, CA 95120 (US). (74) Agents: CRISS, Roger, H. et al.; AlliedSignal Inc., 101 Columbia Avenue, P.O. Box 2245, Morristown, NJ 07960 (US).		(81) Designated States: AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GE, GH, GM, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, UZ, VN, YU, ZW, ARIPO patent (GH, GM, KE, LS, MW, SD, SL, SZ, TZ, UG, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG). Published <i>With international search report.</i> <i>Before the expiration of the time limit for amending the claims and to be republished in the event of the receipt of amendments.</i>
(54) Title: LOW DIELECTRIC NANO-POROUS MATERIAL OBTAINABLE FROM POLYMER DECOMPOSITION		
(57) Abstract The present invention relates to novel low dielectric constant nanoporous dielectric films having improved mechanical strength, and to improved processes for producing the same on substrates suitable for use in the production of integrated circuits. The nanoporous dielectric films are prepared by a process of preparing a mixture of a spin-on-glass material with a suitable thermally degradable polymer in a compatible solvent or solvents. Applying the resulting mixture onto a substrate suitable for use in the production of an integrated circuit, to produce a coated substrate. The coated substrate is then heated for a time and at one or more temperatures effective to remove the thermally degradable polymer, so as to produce the desired low dielectric nanoporous dielectric film. Semiconductors, such as integrated circuits with films according to the invention, are also provided.		

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