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(21) International Application Number: PCT/GB00/01119 (22) International Filing Date: 23 March 2000 (23.03.00) (30) Priority Data: 09/300,762 26 April 1999 (26.04.99) US (71) Applicant: INTERNATIONAL BUSINESS MACHINES CORPORATION [US/US]; New Orchard Road, Armonk, NY 10504 (US). (71) Applicant (for MC only): IBM UNITED KINGDOM LIMITED [GB/GB]; P.O. Box 41, North Harbour, Portsmouth, Hampshire PO6 3AU (GB). (72) Inventors: JAPP, Robert; 2 Kilmer Road, Vestal, NY 13850 (US). POLIKS, Mark; 1724 Terrace Drive, Vestal, NY 13850 (US). (74) Agent: FOURNIER, Kevin, John; IBM United Kingdom Limited, Intellectual Property Dept., Hursley Park, Winchester, Hampshire SO21 2JN (GB).		(81) Designated States: AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CR, CU, CZ, DE, DK, DM, EE, 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, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, UZ, VN, YU, ZA, 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>
(54) Title: POROUS POWER AND GROUND PLANES FOR REDUCED PCB DELAMINATION AND BETTER RELIABILITY		
(57) Abstract <p>Power and ground planes (203, 205) that are used in Printed Circuit Boards (PCBs) and that comprise porous, conductive materials are disclosed. Using porous power and ground plane materials in PCBs allows liquids (e.g., water and/or other solvents) to pass through the power and ground planes (202, 205), thus decreasing failures in PCBs (or PCBs used as laminate chip carriers) caused by cathodic/anodic filament growth and delamination of insulators. Porous conductive materials suitable for use in PCBs may be formed by using metal-coated organic cloths (such as polyester or liquid crystal polymers) or fabrics (such as those made from carbon/graphite or glass fibers), using metal wire mesh instead of metal sheets, using sintered metal, or making metal sheets (202, 205) porous by forming an array of holes (220) in the metal sheets. Fabrics and mesh may be woven or random. If an array of holes (220) is formed in a metal sheet, such an array may be formed with no additional processing steps than are performed using conventional PCB assembly methods.</p>		

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