



INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(51) International Patent Classification ⁷ : G01L 1/22		A1	(11) International Publication Number: WO 00/62030
			(43) International Publication Date: 19 October 2000 (19.10.00)
(21) International Application Number: PCT/US00/09858 (22) International Filing Date: 13 April 2000 (13.04.00) (30) Priority Data: 09/291,468 14 April 1999 (14.04.99) US (63) Related by Continuation (CON) or Continuation-in-Part (CIP) to Earlier Application US 09/291,468 (CON) Filed on 14 April 1999 (14.04.99) (71) Applicant (for all designated States except US): MILLIPORE CORPORATION [US/US]; 80 Ashby Road, Bedford, MA 01730 (US). (72) Inventors; and (75) Inventors/Applicants (for US only): MARCHANT, Robert [US/US]; 2900 calle Heraldo, San Clemente, CA 92672 (US). FAZELI, Majid [IR/US]; 4109 Denham Way, Plano, TX 75024 (US). (74) Agent: KING, Timothy, J.; Millipore Corporation, 80 Ashby Road, Bedford, MA 01730 (US).		(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, US, 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 With international search report.	

(54) Title: METHOD OF MAKING THIN FILM PIEZORESISTIVE SENSOR

(57) Abstract

Semiconductor piezoresistive sensors are formed by a process using selective laser activation of a doped semiconductor surface. The substrate is a flexible membrane such as a diaphragm or bellows. A layer of insulative dielectric material is first applied to the substrate. A layer of highly resistive doped semiconductor material is then deposited on top of the dielectric layer. Through the use of an alignment device one or more piezoresistive sensors are formed by use of laser annealing of selected areas of the semiconductor material such that the annealed areas have a resistance suitable for use as sensors. Metal contacts are then applied over the end portions of sensors and form an electrical connection to the sensors. The non-annealed portions of doped semiconductor layer act as insulators between the formed piezoresistive sensors.

