IPO's copy!
9604987-7.

PCT WORLD INTELLECTUAL PROPERTY ORGANIZATION
International Bureau

INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(51) International Patent Classification 6 : H01L 21/56, 23/31 — A1

(11) International Publication Number: **WO 97/38441**

(43) International Publication Date: 16 October 1997 (16.10.97)

(21) International Application Number: PCT/US97/05828

(22) International Filing Date: 4 April 1997 (04.04.97)

(30) Priority Data:

60/015,002	8 April 1996 (08.04.96)	US
Not furnished	26 March 1997 (26.03.97)	US

(60) Parent Application or Grant
(63) Related by Continuation
US — Not furnished (CON)
Filed on — 26 March 1997 (26.03.97)

(71) Applicant *(for all designated States except US)*: LAMBDA TECHNOLOGIES, INC. [US/US]; Suite 900, 960 Aviation Parkway, Morrisville, NC 27560 (US).

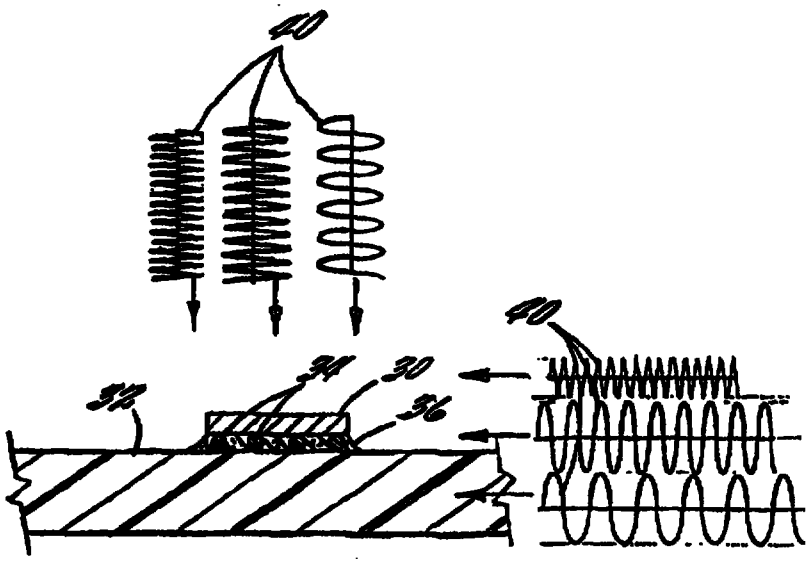
(72) Inventors; and
(75) Inventors/Applicants *(for US only)*: FATHI, Zakaryae [MA/US]; 101 H Stephanie Drive, Cary, NC 27511 (US). TUCKER, Denise, A. [US/US]; 3916 Yateswood Court, Raleigh, NC 27603 (US). GARARD, Richard, S. [US/US]; 2908 N. Hawick Court, Chapel Hill, NC 26444 (US). WEI, Jianghua [CN/US]; 186 Deep Hollow Drive #4100, Raleigh, NC 27612 (US).

(74) Agents: SAJOVEC, F., Michael et al.; Bell, Seltzer, Park & Gibson, P.O. Drawer 34009, Charlotte, NC 28234 (US).

(81) Designated States: AL, AM, AT, AT (Utility model), AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, CZ (Utility model), DE, DE (Utility model), DK, DK (Utility model), EE, EE (Utility model), ES, FI, FI (Utility model), GB, GE, HU, IL, 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, SK (Utility model), TJ, TM, TR, TT, UA, UG, US, UZ, VN, ARIPO patent (GH, KE, LS, MW, SD, SZ, UG), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG).

Published
With international search report.
Before the expiration of the time limit for amending the claims and to be republished in the event of the receipt of amendments.

(54) Title: CURING LIQUID RESIN ENCAPSULANTS OF MICROELECTRONICS COMPONENTS WITH MICROWAVE ENERGY



(57) Abstract

Systems and methods of surface mounting microelectronic components to rapidly produce microelectronic assemblies having reduced residual stresses therein are disclosed. A microelectronic component (30) is conductively secured to a substrate surface (32), and a portion of the component (30) and the substrate surface (32) adjacent the component is encapsulated with a curable resin (36). The curable resin (36) is swept with one or more ranges of microwave frequencies (40) to rapidly and selectively cure the resin and produce a microelectronic assembly having reduced residual stresses therein.