

(19) World Intellectual Property Organization  
International Bureau



(43) International Publication Date  
26 July 2007 (26.07.2007)

PCT

(10) International Publication Number  
**WO 2007/084572 A3**

(51) International Patent Classification:

H01L 23/24 (2006.01)

(21) International Application Number:

PCT/US2007/001249

(22) International Filing Date: 17 January 2007 (17.01.2007)

(25) Filing Language:

English

(26) Publication Language:

English

(30) Priority Data:

11/334,637 18 January 2006 (18.01.2006) US

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(81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM,

AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT, HN, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KN, KP, KR, KZ, LA, LC, LK, LR, LS, LT, LU, LV, LY, MA, MD, MG, MK, MN, MW, MX, MY, MZ, NA, NG, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RS, RU, SC, SD, SE, SG, SK, SL, SM, SV, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, ZA, ZM, ZW.

(84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, LV, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Published:

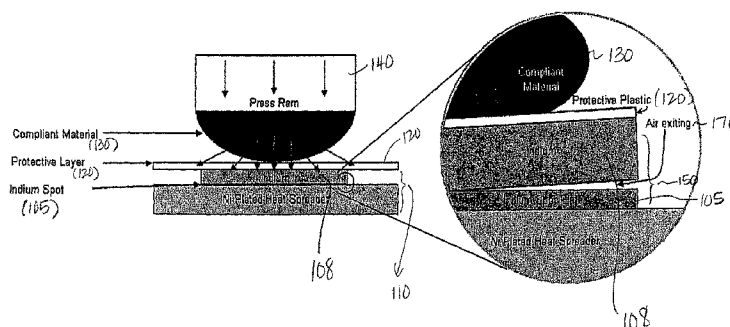
- with international search report
- before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments

(88) Date of publication of the international search report:

22 November 2007

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(54) Title: THERMAL INTERCONNECT AND INTERFACE SYSTEMS, METHODS OF PRODUCTION AND USES THEREOF



(57) Abstract: Components and materials, including thermal transfer materials, described herein comprise at least one heat spreader component coupled with a metal-based coating, layer and/or film, at least one thermal interface material and in some contemplated embodiments at least one adhesive material. The heat spreader component comprises a top surface, a bottom surface and at least one heat spreader material. The thermal interface material is directly deposited onto at least part of at least one of the surfaces of the heat spreader component. Methods of forming layered thermal interface materials and thermal transfer materials include: a) providing a heat spreader component, wherein the heat spreader component comprises a top surface, a bottom surface and at least one heat spreader material; b) providing at least one thermal interface material, wherein the thermal interface material is directly deposited onto the bottom surface of the heat spreader component; c) depositing, applying or coating a metal-based coating, film or layer on at least part of the bottom surface of the heat spreader component; and d) depositing, applying or coating the at least one thermal interface material onto at least part of at least one of the surfaces of the heat spreader component. A method for forming the thermal solution/package and/or IC package includes: a) providing the thermal transfer material described herein; b) providing at least one adhesive component; c) providing at least one surface or substrate; d) coupling the at least one thermal transfer material and/or material with the at least one adhesive component to form an adhesive unit; e) coupling the adhesive unit to the at least one surface or substrate to form a thermal package; f) optionally coupling an additional layer or component to the thermal package.