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[Continued on next page]

(54) Title: HALO-HYDROCARBON POLYMER COATING

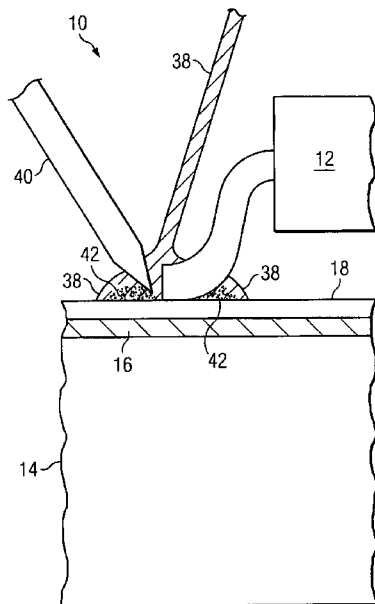


FIG. 3A

(57) Abstract: In some embodiments, a printed circuit board (PCB) comprises a substrate comprising an insulating material. The PCB further comprises a plurality of conductive tracks attached to at least one surface of the substrate. The PCB further comprises a multi-layer coating deposited on the at least one surface of the substrate. The multi-layer coating (i) covers at least a portion of the plurality of conductive tracks and (ii) comprises at least one layer formed of a halo-hydrocarbon polymer. The PCB further comprises at least one electrical component connected by a solder joint to at least one conductive track, wherein the solder joint is soldered through the multi-layer coating such that the solder joint abuts the multi-layer coating.



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TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HR, HU, IE, IS, IT, LT, LU, LV, MC, MK, MT, NL, NO, PL, PT, RO, SE, SI, SK, SM, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

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INTERNATIONAL SEARCH REPORT

International application No
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A. CLASSIFICATION OF SUBJECT MATTER INV. H05K3/28 ADD. H05K3/34 H01L23/485 H01H13/70 C12Q1/00		
According to International Patent Classification (IPC) or to both national classification and IPC		
B. FIELDS SEARCHED Minimum documentation searched (classification system followed by classification symbols) H05K H01L C12Q H01H		
Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched		
Electronic data base consulted during the international search (name of data base and, where practical, search terms used) EPO-Internal, WPI Data, INSPEC		
C. DOCUMENTS CONSIDERED TO BE RELEVANT		
Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 2008/176096 A1 (CHENG YEN-HANG [TW]) 24 July 2008 (2008-07-24)	1-4, 6, 8, 9, 15, 20, 22-25, 27, 29, 30, 36, 40-42
Y	paragraphs [0025] - [0045]; figure 1 -----	45, 46
Y	US 3 931 454 A (SPRENGLING GERHARD R) 6 January 1976 (1976-01-06) column 1, lines 39-57 column 2, line 2 - column 3, line 47 -----	45-58, 61-73, 75-77
Y	DE 10 2007 062787 A1 (QIMONDA AG [DE]; UNITED TEST AND ASSEMBLY CT LT [SG]) 17 July 2008 (2008-07-17) the whole document -----	47-58, 61-73, 75-77
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<input checked="" type="checkbox"/> Further documents are listed in the continuation of Box C. <input checked="" type="checkbox"/> See patent family annex.		
* Special categories of cited documents :		
"A" document defining the general state of the art which is not considered to be of particular relevance "E" earlier document but published on or after the international filing date "L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified) "O" document referring to an oral disclosure, use, exhibition or other means "P" document published prior to the international filing date but later than the priority date claimed "T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention "X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone "Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art. "&" document member of the same patent family		
Date of the actual completion of the international search <p style="text-align: center;">12 April 2010</p>		Date of mailing of the international search report <p style="text-align: center;">27/04/2010</p>
Name and mailing address of the ISA/ European Patent Office, P.B. 5818 Patentlaan 2 NL - 2280 HV Rijswijk Tel. (+31-70) 340-2040. Fax: (+31-70) 340-3016		Authorized officer <p style="text-align: center;">Degroote, Bart</p>

INTERNATIONAL SEARCH REPORT

International application No

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C(Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT		
Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 2006/103030 A1 (AOKI MAKOTO [JP] ET AL) 18 May 2006 (2006-05-18) paragraphs [0017] - [0032]; figures 1,2	1-4, 6, 8, 9, 20, 22-25, 27, 29, 30, 40, 42
X	US 2004/026775 A1 (HECHT HANS [DE] ET AL) 12 February 2004 (2004-02-12) paragraphs [0003], [0010] - [0014], [0023]; figure 1	47-57, 62-72, 76, 77
Y	US 3 745 536 A (KLEHM W) 10 July 1973 (1973-07-10) column 2, line 38 - column 3, line 7; figures 1,2	78, 81-84, 88-93, 96-99, 103-108
Y	US 4 268 568 A (SARD RICHARD ET AL) 19 May 1981 (1981-05-19) column 1, lines 34-56	78, 81-85, 87-93, 96-100, 102-108
Y	US 7 112 265 B1 (MCALEER JEROME F [GB] ET AL) 26 September 2006 (2006-09-26) column 2, line 62 - column 3, line 12 column 6, lines 10-13; figure 1	78, 82, 84, 85, 87-91, 93, 97, 99, 100, 102-107
X	GB 1 399 252 A (POST OFFICE) 2 July 1975 (1975-07-02) pages 2,3; figures 1-3	78, 81-84, 90-93, 96-99, 105, 106, 108
A	ANONYMOUS: "Circuit board soldering through conformal coating" RESEARCH DISCLOSURE, MASON PUBLICATIONS, HAMPSHIRE, GB, vol. 293, no. 68, 1 September 1988 (1988-09-01), XP007112948 ISSN: 0374-4353 the whole document	1, 22

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INTERNATIONAL SEARCH REPORT

International application No
PCT/GB2009/001966

C(Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT		
Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	US 6 183 883 B1 (MORI YOSHIKI [JP] ET AL) 6 February 2001 (2001-02-06) sentences 33-37, paragraph 4 -----	7, 28, 60
X, P	WO 2008/102113 A2 (CROMBIE 123 LTD [GB]; FERDINANDI FRANK [GB]; SMITH RODNEY EDWARD [GB];) 28 August 2008 (2008-08-28) the whole document -----	1-9, 13-15, 18-20, 22-30, 34-36, 39-57, 60-72, 76-78, 81-84, 88-93, 96-99, 103-108

INTERNATIONAL SEARCH REPORT

International application No.
PCT/GB2009/001966

Box No. II Observations where certain claims were found unsearchable (Continuation of item 2 of first sheet)

This international search report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. Claims Nos.:
because they relate to subject matter not required to be searched by this Authority, namely:

2. Claims Nos.:
because they relate to parts of the international application that do not comply with the prescribed requirements to such an extent that no meaningful international search can be carried out, specifically:

3. Claims Nos.:
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

Box No. III Observations where unity of invention is lacking (Continuation of item 3 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:

see additional sheet

1. As all required additional search fees were timely paid by the applicant, this international search report covers all searchable claims.

2. As all searchable claims could be searched without effort justifying an additional fees, this Authority did not invite payment of additional fees.

3. As only some of the required additional search fees were timely paid by the applicant, this international search report covers only those claims for which fees were paid, specifically claims Nos.:

4. No required additional search fees were timely paid by the applicant. Consequently, this international search report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

Remark on Protest

- The additional search fees were accompanied by the applicant's protest and, where applicable, the payment of a protest fee.
- The additional search fees were accompanied by the applicant's protest but the applicable protest fee was not paid within the time limit specified in the invitation.
- No protest accompanied the payment of additional search fees.

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

This International Searching Authority found multiple (groups of) inventions in this international application, as follows:

1. claims: 1-46

printed circuit board with multi-layer coating partially covering conductive tracks and having a solder connection, the multi-layer coating comprising a layer of a halo-hydrocarbon polymer; method for obtaining such a printed circuit board

2. claims: 47-77

printed circuit board with a halo-hydrocarbon polymer coating partially covering conductive tracks and having a wire bond connection; method for obtaining such a printed circuit board

3. claims: 78-108

apparatus with a contact covered by a halo-hydrocarbon layer, the contact being suitable for conducting an electrical signal through the coating to a second contact; method for obtaining such an apparatus

INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No

PCT/GB2009/001966

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
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