



- (51) **International Patent Classification:**  
*H01L 21/683* (2006.01) *H01L 21/58* (2006.01)
- (21) **International Application Number:**  
PCT/IB2014/000681
- (22) **International Filing Date:**  
4 February 2014 (04.02.2014)
- (25) **Filing Language:** English
- (26) **Publication Language:** English
- (30) **Priority Data:**  
61/763,192 11 February 2013 (11.02.2013) US
- (71) **Applicant:** HENKEL IP & HOLDING GMBH [DE/DE]; 67 Henkelstrasse, 40589 Duesseldorf (DE).
- (72) **Inventors:** DUTT, Gyanendra; 13211 Creek View Drive, Unit A, Garden Grove, CA 92844 (US). HOANG, Elizabeth; 216 W. Sparkleberry Ave., Orange, CA 92865 (US). RUATTA, Stephen; 1501 Marengo Avenue, South Pasadena, CA 91030 (US). ZHUO, Qizhuo; 86 Congress Place, Irvine, CA 92602 (US).
- (81) **Designated States** (*unless otherwise indicated, for every kind of national protection available*): AE, AG, AL, AM, AO, AT, AU, AZ, BA, BB, BG, BH, BN, BR, BW, BY,

BZ, CA, CH, CL, CN, CO, CR, CU, CZ, DE, DK, DM, DO, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT, HN, HR, HU, ID, IL, IN, IR, IS, JP, KE, KG, KN, KP, KR, KZ, LA, LC, LK, LR, LS, LT, LU, LY, MA, MD, ME, MG, MK, MN, MW, MX, MY, MZ, NA, NG, NI, NO, NZ, OM, PA, PE, PG, PH, PL, PT, QA, RO, RS, RU, RW, SA, SC, SD, SE, SG, SK, SL, SM, ST, SV, SY, TH, 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, LR, LS, MW, MZ, NA, RW, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, RU, TJ, TM), European (AL, 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, RS, SE, SI, SK, SM, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, KM, ML, MR, NE, SN, TD, TG).

**Published:**

— *with international search report (Art. 21(3))*

- (88) **Date of publication of the international search report:**  
27 November 2014



WO 2014/122534 A3

(54) **Title:** WAFER BACK SIDE COATING AS DICING TAPE ADHESIVE

(57) **Abstract:** A semiconductor assembly comprises a semiconductor wafer, an adhesive coating disposed on the back side of the wafer, and a bare dicing tape, preferably UV radiation transparent. The assembly is prepared by the method comprising (a) providing a semiconductor wafer, (b) disposing a wafer back side coating on the semiconductor wafer, (c) partially curing the wafer back side coating to the extent that it adheres to the back side of the wafer and remains tacky, and (d) contacting the bare dicing tape to the partially cured and tacky wafer back side coating, optionally with heat and pressure.

# INTERNATIONAL SEARCH REPORT

International application No <b>PCT/IB2014/000681</b>
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<b>A. CLASSIFICATION OF SUBJECT MATTER</b> INV. H01L21/683 H01L21/58 ADD.				
According to International Patent Classification (IPC) or to both national classification and IPC				
<b>B. FIELDS SEARCHED</b>				
Minimum documentation searched (classification system followed by classification symbols) H01L				
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 practicable, search terms used) EPO-Internal, WPI Data				
<b>C. DOCUMENTS CONSIDERED TO BE RELEVANT</b>				
Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.		
X	US 2008/241995 A1 (FUKUI YASUKI [JP] ET AL) 2 October 2008 (2008-10-02) figures 1, 2 paragraphs [0048] - [0052], [0102] - [0105] -----	1-3		
X	US 2011/187009 A1 (MASUKO TAKASHI [JP] ET AL) 4 August 2011 (2011-08-04) figures 4, 5, 7 paragraphs [0085], [0087], [0088], [0090] -----	1,2		
Y		4		
Y	WO 2012/073972 A1 (HITACHI CHEMICAL CO LTD [JP]; MORI SHUICHI [JP]) 7 June 2012 (2012-06-07) abstract figures 2-6 paragraphs [0131] - [0152] -----	4		
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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 : <table style="width: 100%; border: none;"> <tr> <td style="width: 50%; border: none; vertical-align: top;">                     "A" document defining the general state of the art which is not considered to be of particular relevance                      "E" earlier application or patent 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                 </td> <td style="width: 50%; border: none; vertical-align: top;">                     "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                      "&amp;" document member of the same patent family                 </td> </tr> </table>			"A" document defining the general state of the art which is not considered to be of particular relevance "E" earlier application or patent 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
"A" document defining the general state of the art which is not considered to be of particular relevance "E" earlier application or patent 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	Date of mailing of the international search report			
22 August 2014	29/08/2014			
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  Crampin, Nicola			

**INTERNATIONAL SEARCH REPORT**

International application No PCT/IB2014/000681
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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.
A	<p>ZHANG D ET AL: "MECHANISM OF CORONA TREATMENT ON POLYOLEFIN FILMS", POLYMER ENGINEERING AND SCIENCE, BROOKFIELD CENTER, US, vol. 38, no. 6, 1 June 1998 (1998-06-01), pages 965-970, XP000848916, ISSN: 0032-3888, DOI: 10.1002/PEN.10264 abstract "Introduction"  -----</p>	2

# INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No PCT/IB2014/000681
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Patent document cited in search report	Publication date	Patent family member(s)	Publication date
US 2008241995 A1	02-10-2008	CN 101095215 A	26-12-2007
		EP 1763070 A1	14-03-2007
		JP 2005327789 A	24-11-2005
		US 2008241995 A1	02-10-2008
		US 2009220783 A1	03-09-2009
		WO 2005109479 A1	17-11-2005
-----			
US 2011187009 A1	04-08-2011	CN 102112568 A	29-06-2011
		EP 2311921 A1	20-04-2011
		JP 5445455 B2	19-03-2014
		KR 20110034038 A	04-04-2011
		TW 201006901 A	16-02-2010
		US 2011187009 A1	04-08-2011
WO 2012073972 A1	07-06-2012	CN 103250235 A	14-08-2013
		TW 201246280 A	16-11-2012
		WO 2012073972 A1	07-06-2012
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