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(54) Title: BACKSIDE METHOD AND SYSTEM FOR FABRICATING SEMICONDUCTOR COMPONENTS WITH CONDUCTIVE INTERCONNECTS

(57) Abstract: A backside method for fabricating a semiconductor component (50) with a conductive interconnect (44) includes the step of providing a semiconductor substrate (12) having a circuit side (14), a backside (16), and a substrate contact (18) on the circuit side (14). The method also includes the steps of forming a substrate opening (30) from the backside (16) to the substrate contact (18), and then bonding the conductive interconnect (44) to an inner surface (32) of the substrate contact (18). A system (62) for performing the method includes the semiconductor substrate (12), a thinning system (64) for thinning the semiconductor substrate (12), an etching system (66A) for forming the substrate opening (30), and a bonding system (38) for bonding the conductive interconnect (44) to the substrate contact (18). The semiconductor component (50) can be used to form module components (98), underfilled components (106), stacked components (116), and image sensor semiconductor components (50IS).



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INTERNATIONAL SEARCH REPORT

International application No.

PCT/US06/17036

A. CLASSIFICATION OF SUBJECT MATTER
 IPC: **H01L 21/265**(2006.01),**21/425**(2006.01),**21/44**(2006.01),**21/261**(2006.01),**21/4763**(2006.01),**21/46**(2006.01),**21/00**(2006.01),**29/40**(2006.01),**29/00**(2006.01),**29/80**(2006.01),**31/00**(2006.01),**23/02**(2006.01)
 USPC: 257/276,460,502,520,686,777;438/106,107,108,109,459,512,524,598,612,613,620
 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)
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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)
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C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X --- Y	US 2003/0230805 A1 (Noma et al.) 18 December 2003 (18.12.2003), see paragraphs 0017, 0062-0072 & 0095.	1,2,4-8,11-17,20-30,39,42-46,61-115,117-119,126,128-130,134,136,138-144 ----- 53-60,74,94,117,121-125,129,137,143
Y	US 6,881,648 (Chen et al.) 19 April 2005 (19.04.2005), see column 17 lines 14-17.	127,137

Further documents are listed in the continuation of Box C. See patent family annex.

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"A" document defining the general state of the art which is not considered to be of particular relevance	"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
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"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	"&"	document member of the same patent family

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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 --- Y	US 5,229,647 (Gnadinger) 20 July 1993 (20.07.1993), see Title & column 3 lines 47-60 & column 4 lines 20-22.	1,4-6,8,10-17,39,53-57,59-67,78,83,90,100, 127, 137 ----- 9,
X --- Y	US 6,444,576 (Kong) 3 September 2002 (03.09.2002), see column 3-4 lines 65-65 & column 5 lines 2-10.	1,6-17,21,53-57 ----- 24-27,49
Y	US 6,848,177 (Swann et al.) 1 February 2005 (01.02.2005), see column 3 lines 9-13	10, 53-57,117,131-133
Y	US 4,394,712,712 (Anthony) 19 July 1983 (19.07.1983), see Abstract	26,50,51,52,68-71,122
Y	US 6,395,581 (Choi) 28 March 2002 (28.03.2002), see column 4 lines 52-58.	6-9,47,49,52
A	US 4,897,708 (Clements) 30 January 1990 (30.01.1990)	
A	US 5,432,999 (Capps) 18 July 1995 (18.07.1995)	