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(54) **Title**: DOUBLE-SIDED FLIP CHIP PACKAGE

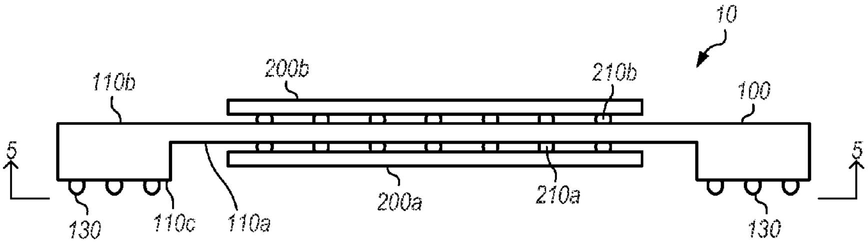

FIG. 4

(57) **Abstract**: Semiconductor device modules having two or more integrated circuit dies mounted on opposing sides of a substrate. The integrated circuit dies are mounted by use of surface mount connections, such as flip chip connections implemented using conductive bumps. Systems may include one or more of the present semiconductor device modules, and in some cases may also include other modules, such as a system module.

WO 2013/012634 A3

INTERNATIONAL SEARCH REPORT

International application No.
PCT/US2012/046248

A. CLASSIFICATION OF SUBJECT MATTER
IPC(8) - H01L 23/48 (2012.01)
USPC - 257/778
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)
IPC(8) - H01L 23/48, 23/52, 29/40 (2012.01)
USPC - 257/778, 777, 780, 686

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)
PatBase, Proquest, Orbit.com, Google Patents

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 6,734,539 B2 (DEGANI et al) 11 May 2004 (11.05.2004) entire document	1, 4, 6, 15, 18-20
Y		2-3, 5, 7-14, 16-17
Y	US 2010/0078779 A1 (BARTH et al) 01 April 2010 (01.04.2010) entire document	2-3, 9-10, 16
Y	US 7,217,994 B2 (ZHU et al) 15 May 2007 (15.05.2007) entire document	5, 8-14
Y	US 2005/0017336 A1 (KUNG et al) 27 January 2005 (27.01.2005) entire document	17
Y	US 2004/0113281 A1 (BRANDENBURG et al) 17 June 2004 (17.06.2004) entire document	7, 14
Y	US 2007/0023887 A1 (MATSUI) 01 February 2007 (01.02.2007) entire document	7, 14
A	US 6,542,393 B1 (CHU et al) 01 April 2003 (01.04.2003) entire document	1-20
A	US 2006/0115928 A1 (NGUYEN et al) 01 June 2006 (01.06.2006) entire document	1-20
A	US 6,414,391 B1 (CORISIS et al) 02 July 2002 (02.07.2002) entire document	1-20

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"A"	document defining the general state of the art which is not considered to be of particular relevance		
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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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