



SM, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Published:

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

Declarations under Rule 4.17:

— *as to applicant's entitlement to apply for and be granted a patent (Rule 4.17(ii))*

— *before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments (Rule 48.2(h))*

— *as to the applicant's entitlement to claim the priority of the earlier application (Rule 4.17(iii))*

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

22 November 2012

A. CLASSIFICATION OF SUBJECT MATTER***H01L 23/12(2006.01)i, H01L 21/60(2006.01)i, H05K 3/46(2006.01)i***

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)

H01L 23/12; H01L 21/60; H01L 27/06; H05K 1/18; H01L 23/48; H01L 21/00

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Korean utility models and applications for utility models

Japanese utility models and applications for utility models

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

eKOMPASS(KIPO internal) & Keywords: package, embedded, die, via, thermal bridge

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	KR 10-2009-0124064 A (KOREA ELECTRONICS TECHNOLOGY INSTITUTE) 03 December 2009 See abstract; paragraphs <1>, <55> - <78>; and figures 1a-2.	1-10
A	US 2009-0073667 A1 (YUL-KYO CHUNG et al.) 19 March 2009 See abstract; figure 3; and paragraphs [0034]-[0041].	1-10
A	US 2007-0080443 A1 (MING SUN et al.) 12 April 2007 See abstract; figures 2A-3D; and paragraphs [0021]-[0024].	1-10
A	US 2008-0258293 A1 (WEN-KUN YANG et al.) 23 October 2008 See abstract; figures 1-5; and paragraphs [0016]-[0023].	1-10



Further documents are listed in the continuation of Box C.



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 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 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

28 SEPTEMBER 2012 (28.09.2012)

Date of mailing of the international search report

04 OCTOBER 2012 (04.10.2012)

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INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No.

PCT/US2012/026284

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
KR 10-2009-0124064 A	03.12.2009	None	
US 2009-0073667 A1	19.03.2009	JP 2009-076899 A KR 10-0869832 B1 US 8064215 B2	09.04.2009 21.11.2008 22.11.2011
US 2007-0080443 A1	12.04.2007	CN 101005062 A CN 101005062 B CN 101005062 C0 CN 101258609 A0 CN 101258609 B TW 1343097B US 2007-0085187 A1 US 2011-0076808 A1 US 2011-0143499 A1 US 7829989 B2 US 7838977 B2 US 8124453 B2 US 8168477 B2 WO 2007-030694 A2 WO 2007-030694 A3 WO 2007-030694 A3	25.07.2007 21.12.2011 25.07.2007 03.09.2008 14.07.2010 01.06.2011 19.04.2007 31.03.2011 16.06.2011 09.11.2010 23.11.2010 28.02.2012 01.05.2012 15.03.2007 13.12.2007 15.03.2007
US 2008-0258293 A1	23.10.2008	CN 101295683 A CN 101295683 C0 DE 102008019336 A1 JP 2008-270810 A KR 10-2008-0093909 A SG 147390A1 TW 200843055 A	29.10.2008 29.10.2008 06.11.2008 06.11.2008 22.10.2008 28.11.2008 01.11.2008