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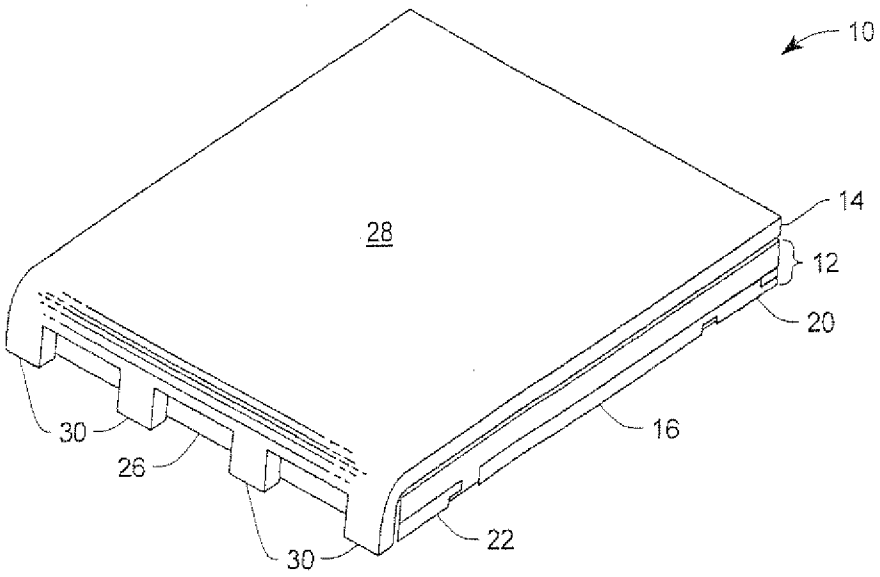
(54) **Title:** FLIP CHIP MLP WITH FOLDED HEAT SINK



(57) **Abstract:** A semiconductor package assembly including a molded leadless package (MLP) having an exposed top emitter pad and an exposed bottom source pad. A folded heat sink is attached to the exposed top emitter pad of the MLP by a soft solder attach process. The folded heat sink has a planar member generally coextensive in size with the MLP and in electrical and thermal contact with the top emitter pad of the MLP, and also has one or more leads extending generally perpendicularly to the planar member in a direction towards the lower surface of the MLP. These heat sink leads may provide the emitter connection to a printed circuit (PC) board.

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INTERNATIONAL SEARCH REPORT

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A. CLASSIFICATION OF SUBJECT MATTER
IPC(8) - H01L 23/34 (2007.01)
USPC - 257/675
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 23/34, 23/495 (2007.01)
USPC - 257/675, 707

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)
USPTO EAST System (US, USPG-PUB, USOCR), MicroPatent

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	US 6,891,256 B2 (JOSHI et al) 10 May 2005 (10.05.2005) entire document	1-9
Y	US 2003/0001244 A1 (ARAKI et al) 02 January 2003 (02.01.2003) entire document	1-9
Y	US 6,777,800 B2 (MADRID et al) 17 August 2004 (17.08.2004) entire document	1-9
Y	US 6,040,626 A (CHEAH et al) 21 March 2000 (21.03.2000) entire document	2, 4
Y	US 4,960,236 A (HEDGES et al) 02 October 1990 (02.10.1990) entire document	2, 4
Y	US 5,062,896 A (HUANG et al) 05 November 1991 (05.11.1991) entire document	5
Y	US 2006/0001135 A1 (TANAKA) 05 January 2006 (05.01.2006) entire document	8
Y	US 4,554,575 A (LUCAS) 19 November 1985 (19.11.1985) entire document	8
Y	US 5,726,861 A (OSTREM) 10 March 1998 (10.03.1998) entire document	8

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Date of the actual completion of the international search	Date of mailing of the international search report
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