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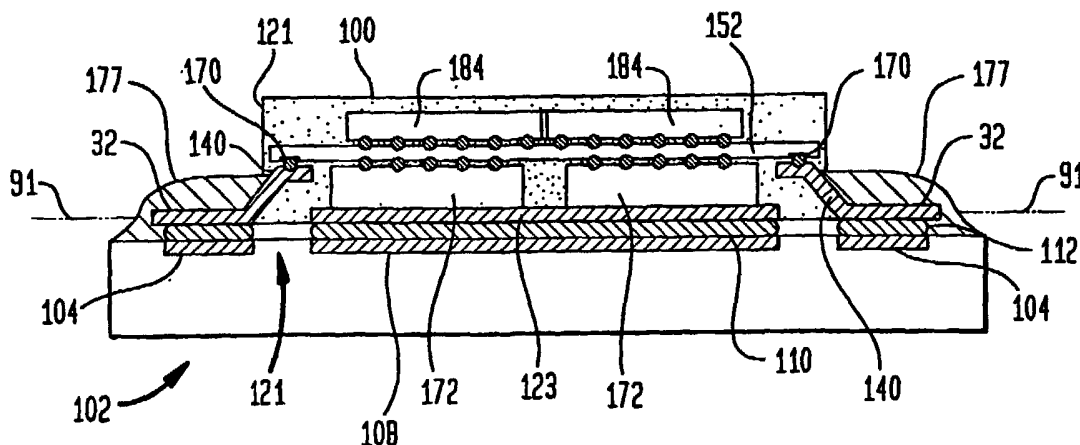
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(54) Title: HIGH FREQUENCY CHIP PACKAGES WITH CONNECTING ELEMENTS



(57) Abstract: A radio frequency chip package is formed by assembling a connecting element such as a circuit board (52) or flexible circuit tape having chips (72, 84) thereon with a bottom plane element (20) such as a lead frame incorporating a large thermally-conductive plate (22) and leads (40, 42) projecting upwardly from the plane of the plate. The assembly step places the rear surfaces (78) of the chips (72) on the bottom side of the connecting element (52) into proximity with the thermal conductor (22) and joins the conductive traces (60) on the connecting element with the leads. The resulting assembly is encapsulated, leaving terminals at the bottom ends (45) of the leads exposed. The encapsulated assembly may be surface-mounted to a circuit board (102). The leads (40, 42) provide robust electrical connections between the connecting element (52) and the circuit board (102).

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INTERNATIONAL SEARCH REPORT

International application No.

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A. CLASSIFICATION OF SUBJECT MATTER

IPC(7) : HO1L 23/02, 23/28, 23/52, 29/40, 23/34, 39/00
 US CL : 777, 685, 686, 723, 728, 724, 691, 775, 666, 662, 659

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)
 U.S. : 777, 685, 686, 723

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched
 None

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

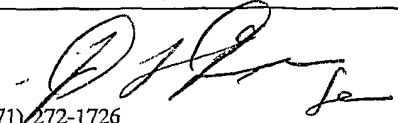
C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 5,895,972 A (Paniccia) 20 April 1999 (20.04.1999), Fig. 6	1
X	US 6,353,263 A (Dotta et al.) 05 March 2002 (05.03.2002), Fig. 1.	1
A	US 5,473,190 A (Inoue et al.) 05 December 1995 (05.12.1995), Fig. 3.	32
A	US 5,382,829 A (Inoue) 17 January 17 1995 (17/01.1995), Fig. 3.	1-85

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

* Special categories of cited documents:		"I"	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
"A"	document defining the general state of the art which is not considered to be of particular relevance	"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
"E"	earlier application or patent published on or after the international filing date	"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
"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)	"&"	document member of the same patent family
"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		

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