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**Declarations under Rule 4.17:**

- as to applicant's entitlement to apply for and be granted a patent (Rule 4.17(ii))
- as to the applicant's entitlement to claim the priority of the earlier application (Rule 4.17(iii))

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[Continued on next page]

(54) **Title:** STACKABLE PACKAGES FOR THREE-DIMENSIONAL PACKAGING OF SEMICONDUCTOR DICE

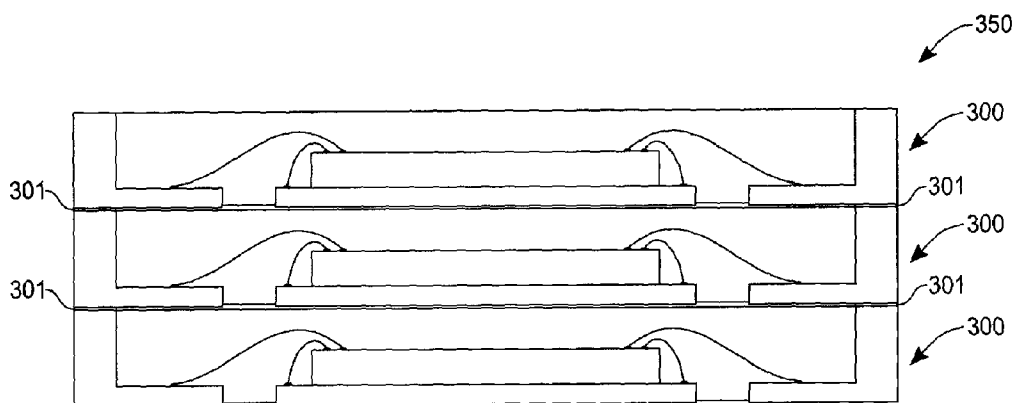


Fig. 3B

(57) **Abstract:** An apparatus and a method for packaging semiconductor devices. The apparatus includes a substrate strip component (201A-201E) of a leadless three-dimensional stackable semiconductor package (300) having mounting contacts on, for example, four peripheral edges. The substrate strip may either be fabricated for mounting a single electrical component (e.g., an integrated circuit die 209) or a plurality of substrate strips may be laid out in an X-Y matrix pattern which may later be singulated (215) into individual package strip for leadless packages. Three-dimensional stacking (350) is achieved by a bonding area (301) on an uppermost portion of the sidewall (203). The sidewall of the strip is high enough to enclose an encapsulant (213) covering a later mounted integrated circuit die and associated bonding wires (211).

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 USPC: **257/777**  
 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. : 257/777, 686, E23.181  
  
 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)

**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 5,422,514 (Griswold et al.) 6 June 1995 (06.06.1995) Fig. 2, 3	1-3, 7, 9, 15-17 ----- 4-6, 8, 10-14
y	US 5,541,449 (Crane, Jr. et al.) 30 July 1996 (30.07.1996) column 24 lines 16-26.	4-6, 8, 9-14

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

* Special categories of cited documents:	"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
"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
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"O" document referring to an oral disclosure, use, exhibition or other means	
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