

Title (en)  
SEMICONDUCTOR DEVICE INCLUDING PLATELESS PACKAGE.

Title (de)  
HALBLEITERANORDNUNG DIE EINEN NICHT PLATTIERTE EINHEIT ENTHÄLT.

Title (fr)  
DISPOSITIF A SEMI-CONDUCTEUR COMPRENANT UN BOITIER SANS PLACAGE.

Publication  
**EP 0074378 A1 19830323 (EN)**

Application  
**EP 82900878 A 19820205**

Priority  
US 24678481 A 19810323

Abstract (en)  
[origin: WO8203294A1] A semiconductor device (10) including a metallurgically compatible unplated package. The package includes a plateless copper alloy die mount area (14) to which a semiconductor die (12) is attached. The semiconductor die (12) is metallized on its mounting surface (40) to provide electrical contact. A metallic solder (38) which is compatible with both the copper alloy and the die metallization joins the die (12) to the die mount area (14). The package further includes a plateless copper alloy lead portion (16) which is physically joined (42) to the die mount area (14). The top surface of the semiconductor die (12) is provided with a patterned metallization (24, 26) making electrical contact to select the portions of the die. Electrical contact is made between the top surface die metallization (24, 26) and the lead portion (16) of the package by ultrasonically bonded copper ribbon (28). The die (12) and interconnecting ribbon (28) is then enclosed by an epoxy encapsulant (18) or by a welded metal cover (58).

Abstract (fr)  
Dispositif a semi-conducteur (10) comprenant un boitier non plaque metallurgiquement compatible. Le boitier comprend une zone de montage (2) de en alliage de cuivre sans placage (14) sur laquelle est fixee un de semi-conducteur (12). Le de semi-conducteur (12) est metallise sur sa surface de montage (40) pour assurer un contact electrique. Une soudure metallique (38) compatible aussi bien avec l'alliage de cuivre qu'avec la surface de metallisation du de relie le de (12) a la zone de montage de de (14). Le boitier comprend en outre une partie de conducteur en alliage de cuivre sans placage (16) reliee physiquement (42) a la zone de montage de de (14). La surface superieure du de semi-conducteur (12) est pourvue d'une couche de metallisation deposee selon un motif (24, 26) assurant le contact electrique avec des parties selectionnees du de. Le contact electrique entre la couche de metallisation de la surface superieure du de (24, 26) et la partie de conducteur (16) du boitier est realisee au moyen d'un ruban (28) de cuivre soude aux ultrasons. Le de (12) et le ruban d'interconnection (28) sont ensuite proteges par un element de scellement epoxyde (18) ou par un couvercle metallique soude (58).

IPC 1-7  
**H01L 23/48**; H01L 29/44; H01L 23/28; H01L 23/02

IPC 8 full level  
**H01L 21/60** (2006.01); **H01L 21/607** (2006.01); **H01L 23/02** (2006.01); **H01L 23/045** (2006.01); **H01L 21/58** (2006.01); **H01L 23/28** (2006.01); **H01L 23/31** (2006.01); **H01L 23/48** (2006.01); **H01L 23/492** (2006.01); **H01L 23/495** (2006.01)

CPC (source: EP)  
**H01L 23/045** (2013.01); **H01L 23/3107** (2013.01); **H01L 23/4924** (2013.01); **H01L 23/49562** (2013.01); **H01L 24/32** (2013.01); H01L 24/29 (2013.01); H01L 24/45 (2013.01); H01L 24/48 (2013.01); H01L 24/73 (2013.01); H01L 2224/04026 (2013.01); H01L 2224/29111 (2013.01); H01L 2224/32245 (2013.01); H01L 2224/45014 (2013.01); H01L 2224/45015 (2013.01); H01L 2224/45124 (2013.01); H01L 2224/45144 (2013.01); H01L 2224/45147 (2013.01); H01L 2224/48091 (2013.01); H01L 2224/48137 (2013.01); H01L 2224/4823 (2013.01); H01L 2224/48247 (2013.01); H01L 2224/48472 (2013.01); H01L 2224/48599 (2013.01); H01L 2224/48699 (2013.01); H01L 2224/48799 (2013.01); H01L 2224/73265 (2013.01); H01L 2224/85099 (2013.01); H01L 2924/00014 (2013.01); H01L 2924/01006 (2013.01); H01L 2924/01012 (2013.01); H01L 2924/01013 (2013.01); H01L 2924/01014 (2013.01); H01L 2924/01024 (2013.01); H01L 2924/01028 (2013.01); H01L 2924/01029 (2013.01); H01L 2924/0103 (2013.01); H01L 2924/01047 (2013.01); H01L 2924/0105 (2013.01); H01L 2924/01051 (2013.01); H01L 2924/01072 (2013.01); H01L 2924/01078 (2013.01); H01L 2924/01079 (2013.01); H01L 2924/01082 (2013.01); H01L 2924/01327 (2013.01); H01L 2924/014 (2013.01); H01L 2924/10253 (2013.01); H01L 2924/1305 (2013.01); H01L 2924/14 (2013.01); H01L 2924/15747 (2013.01); H01L 2924/16152 (2013.01); H01L 2924/181 (2013.01); H01L 2924/20752 (2013.01); H01L 2924/20753 (2013.01); H01L 2924/20754 (2013.01); H01L 2924/20755 (2013.01); H01L 2924/20756 (2013.01); H01L 2924/20757 (2013.01); H01L 2924/20758 (2013.01); H01L 2924/20759 (2013.01); H01L 2924/2076 (2013.01)

C-Set (source: EP)  
1. H01L 2224/45124 + H01L 2924/00014  
2. H01L 2224/45144 + H01L 2924/00014  
3. H01L 2224/45147 + H01L 2924/00014  
4. H01L 2224/48091 + H01L 2924/00014  
5. H01L 2224/45015 + H01L 2924/2076  
6. H01L 2224/45015 + H01L 2924/20759  
7. H01L 2224/45015 + H01L 2924/20758  
8. H01L 2224/45015 + H01L 2924/20757  
9. H01L 2224/45015 + H01L 2924/20756  
10. H01L 2224/45015 + H01L 2924/20755  
11. H01L 2224/45015 + H01L 2924/20754  
12. H01L 2224/45015 + H01L 2924/20753  
13. H01L 2224/45015 + H01L 2924/20752  
14. H01L 2224/73265 + H01L 2224/32245 + H01L 2224/48247 + H01L 2924/00012  
15. H01L 2224/45014 + H01L 2224/45124 + H01L 2924/00  
16. H01L 2224/48472 + H01L 2224/48247 + H01L 2924/00012  
17. H01L 2224/48137 + H01L 2224/45147 + H01L 2924/00  
18. H01L 2924/0133 + H01L 2924/01047 + H01L 2924/0105 + H01L 2924/01051  
19. H01L 2224/48472 + H01L 2224/48247 + H01L 2924/00 + H01L 2924/00014  
20. H01L 2224/29111 + H01L 2924/01047 + H01L 2924/01051 + H01L 2924/00014  
21. H01L 2924/3512 + H01L 2924/00 + H01L 2924/00  
22. H01L 2224/48599 + H01L 2924/00  
23. H01L 2224/48699 + H01L 2924/00

24. H01L 2224/48799 + H01L 2924/00
25. H01L 2224/48472 + H01L 2224/48091 + H01L 2924/00
26. H01L 2224/48472 + H01L 2224/48247 + H01L 2924/00
27. H01L 2224/45014 + H01L 2224/45144 + H01L 2924/00
28. H01L 2224/45014 + H01L 2224/45147 + H01L 2924/00
29. H01L 2924/10253 + H01L 2924/00
30. H01L 2224/85099 + H01L 2224/45124 + H01L 2924/00
31. H01L 2224/85099 + H01L 2224/45144 + H01L 2924/00
32. H01L 2224/85099 + H01L 2224/45147 + H01L 2924/00
33. H01L 2224/85099 + H01L 2224/48472 + H01L 2924/00
34. H01L 2924/1305 + H01L 2924/00
35. H01L 2224/45144 + H01L 2924/00015
36. H01L 2224/45124 + H01L 2924/00015
37. H01L 2224/45014 + H01L 2924/00
38. H01L 2924/00014 + H01L 2224/05599
39. H01L 2924/181 + H01L 2924/00012
40. H01L 2224/45014 + H01L 2924/206

Designated contracting state (EPC)

DE FR GB

DOCDB simple family (publication)

**WO 8203294 A1 19820930**; EP 0074378 A1 19830323; EP 0074378 A4 19850425; IT 1147903 B 19861126; IT 8248005 A0 19820316; JP H0412028 B2 19920303; JP S58500463 A 19830324; KR 830009650 A 19831222; KR 900001223 B1 19900305

DOCDB simple family (application)

**US 8200154 W 19820205**; EP 82900878 A 19820205; IT 4800582 A 19820316; JP 50090882 A 19820205; KR 820001045 A 19820311