



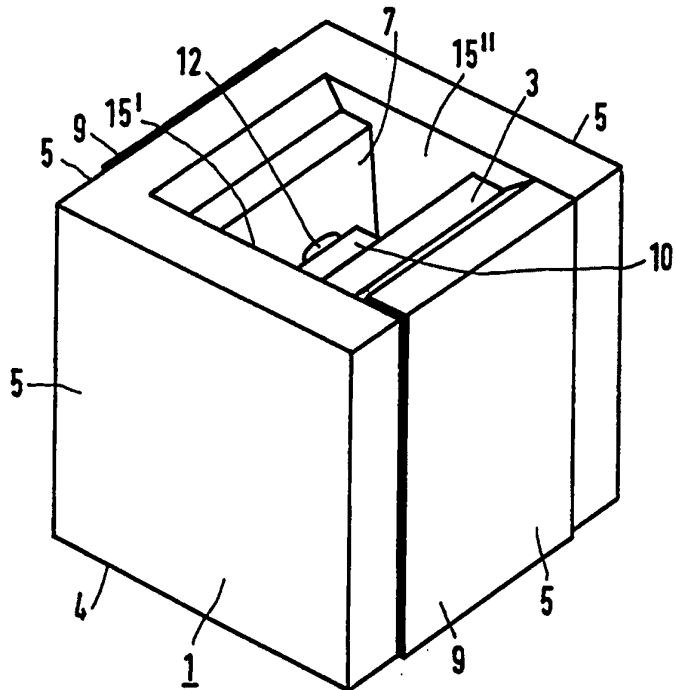
INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

<p>(51) International Patent Classification ⁶ : H01L 23/52</p>	<p>A3</p>	<p>(11) International Publication Number: WO 96/36075 (43) International Publication Date: 14 November 1996 (14.11.96)</p>
<p>(21) International Application Number: PCT/IB96/00411 (22) International Filing Date: 7 May 1996 (07.05.96) (30) Priority Data: 95201203.7 10 May 1995 (10.05.95) EP (34) Countries for which the regional or international application was filed: AT et al. (71) Applicant: PHILIPS ELECTRONICS N.V. [NL/NL]; Groenewoudseweg 1, NL-5621 BA Eindhoven (NL). (71) Applicant (for SE only): PHILIPS NORDEN AB [SE/SE]; Kottbygatan 5, Kista, S-164 85 Stockholm (SE). (72) Inventors: VAN DE WATER, Peter, Wilhelmus, Maria; Gerstweg 2, NL-6534 AE Nijmegen (NL). GROENHOF, Roelf, Anco, Jacob; Gerstweg 2, NL-6534 AE Nijmegen (NL). SCHRIKS, Cornelis, Gerardus; Gerstweg 2, NL-6534 AE Nijmegen (NL). (74) Agent: TANGENA, Antonius, G.; Internationaal Octrooibureau B.V., P.O. Box 220, NL-5600 AE Eindhoven (NL).</p>	<p>(81) Designated States: CN, JP, KR, European patent (AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE). Published <i>With international search report.</i> <i>Before the expiration of the time limit for amending the claims and to be republished in the event of the receipt of amendments.</i> (88) Date of publication of the international search report: 13 February 1997 (13.02.97)</p>	

(54) Title: MINIATURE SEMICONDUCTOR DEVICE FOR SURFACE MOUNTING

(57) Abstract

The invention relates to a semiconductor device for surface mounting with a substrate carrier (1) having a surface provided with a groove (7) with walls (8) on which conductor tracks (9) are present, which conductor tracks (9) continue onto the surface of the substrate carrier (1) and form connection conductors of the device which is provided with a semiconductor element (10) arranged in the groove (7) with its main surface (11) parallel to a wall (8), which semiconductor element (10) makes electrical contact with the conductor tracks (9) on the wall (8), while the groove (7) is filled with a protective material. According to the invention, the substrate carrier (1) is provided with a side wall (15) interconnecting mutually opposed walls (8) of the groove (7) on either side of the semiconductor element (10). This achieves that considerably fewer rejects occur during and after manufacture of comparatively small semiconductor devices.



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INTERNATIONAL SEARCH REPORT

International application No.

PCT/IB 96/00411

A. CLASSIFICATION OF SUBJECT MATTER		
IPC6: H01L 23/52 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)		
IPC6: H01L		
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Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A,P	WO 9528735 A2 (PHILIPS ELECTRONICS N.V. ET AL), 26 October 1995 (26.10.95), figure 1d, claim 1, abstract --	1-5
A,P	WO 9603772 A2 (PHILIPS ELECTRONICS N.V. ET AL), 8 February 1996 (08.02.96), abstract --	1-5
A	EP 0439227 A1 (N.V. PHILIPS' GLOEILAMPENFABRIEKEN), 31 July 1991 (31.07.91), claims 1,8,13, abstract -- -----	1-5
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Information on patent family members

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Patent document cited in search report	Publication date	Patent family member(s)	Publication date
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		CN-A- 1054334	04/09/91
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		US-A- 5198886	30/03/93