



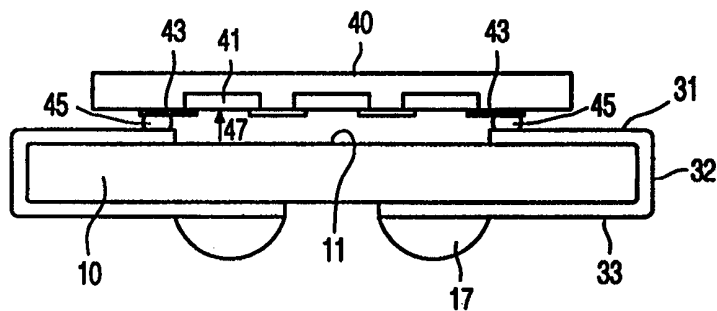
INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

<p>(51) International Patent Classification ⁷ : H01L 23/538, 23/535, 23/52, 23/31, H05K 1/14, 1/11</p>	A3	<p>(11) International Publication Number: WO 99/59206</p> <p>(43) International Publication Date: 18 November 1999 (18.11.99)</p>
<p>(21) International Application Number: PCT/IB99/00818</p> <p>(22) International Filing Date: 6 May 1999 (06.05.99)</p> <p>(30) Priority Data: 98201564.6 13 May 1998 (13.05.98) EP</p> <p>(71) Applicant: KONINKLIJKE PHILIPS ELECTRONICS N.V. [NL/NL]; Groenewoudseweg 1, NL-5621 BA Eindhoven (NL).</p> <p>(71) Applicant (for SE only): PHILIPS AB [SE/SE]; Kottbygatan 7, Kista, S-164 85 Stockholm (SE).</p> <p>(72) Inventors: VAN VEEN, Nicolaas, J., A.; Prof. Holstlaan 6, NL-5656 AA Eindhoven (NL). NELLISSEN, Antonius, J., M.; Prof. Holstlaan 6, NL-5656 AA Eindhoven (NL). DE SAMBER, Marc, A.; Prof. Holstlaan 6, NL-5656 AA Eindhoven (NL).</p> <p>(74) Agent: SMEETS, Eugenius, T., J., M.; Prof. Holstlaan 6, NL-5656 AA Eindhoven (NL).</p>	<p>(81) Designated States: JP, KR, European patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE).</p> <p>Published <i>With international search report.</i></p> <p>(88) Date of publication of the international search report: 24 February 2000 (24.02.00)</p>	

(54) Title: SEMICONDUCTOR DEVICE AND METHOD FOR MAKING THE DEVICE

(57) Abstract

A semiconductor device comprises a first substrate (10) whose top surface is provided with interconnected conductor patterns (31, 32 and 33), side faces and bottom surface. A second substrate (40) having an electric circuit (41) and connection pads (43) at a connection side (47) is mounted on the first substrate (10) with the connection side (47) facing the top surface (11) of the first substrate (10). The connection pads (43) and the first conductor pattern (31) are interconnected by means of solder bumps (45) which are located between the substrate (40) and the substrate (10).



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INTERNATIONAL SEARCH REPORT

International application No.
PCT/IB 99/00818

A. CLASSIFICATION OF SUBJECT MATTER

IPC7: H01L 23/538, H01L 23/535, H01L 23/52, H01L 23/31, H05K 1/14, H05K 1/11
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)

IPC7: H01L, H05K

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

SE,DK,FI,NO classes as above

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

C. DOCUMENTS CONSIDERED TO BE RELEVANT

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

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Date of the actual completion of the international search	Date of mailing of the international search report
8 December 1999	21 -12- 1999
Name and mailing address of the ISA/ Swedish Patent Office Box 5055, S-102 42 STOCKHOLM Facsimile No. +46 8 666 02 86	Authorized officer Hans Bagge af Berga/AE Telephone No. +46 8 782 25 00

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International application No.

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C (Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT

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02/11/99

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