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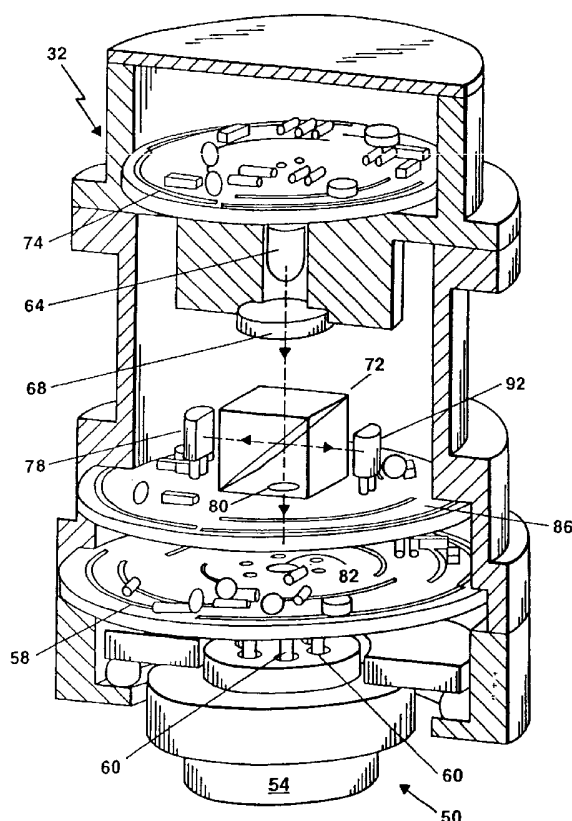
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(54) Title: REAL-TIME IN-LINE TESTING OF SEMICONDUCTOR WAFERS

(57) Abstract: An apparatus and method for the real-time, in-line testing of semiconductor wafers during the manufacturing process. In one embodiment the apparatus includes a probe assembly within a semiconductor wafer processing line. As each wafer passes adjacent the probe assembly, a source of modulated light, within the probe assembly, having a predetermined wavelength and frequency of modulation, impinges upon the wafer. A sensor in the probe assembly measures the surface photovoltage induced by the modulated light. A computer then uses the induced surface photovoltage to determine various electrical characteristics of the wafer.





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# INTERNATIONAL SEARCH REPORT

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**A. CLASSIFICATION OF SUBJECT MATTER**  
IPC 7 H01L21/66 H01L21/66

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**B. FIELDS SEARCHED**

Minimum documentation searched (classification system followed by classification symbols)  
IPC 7 H01L

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 practical, search terms used)

EPO-Internal

**C. DOCUMENTS CONSIDERED TO BE RELEVANT**

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 5 661 408 A (RUZYLLO JERZY ET AL) 26 August 1997 (1997-08-26) column 7, line 16 - column 9, line 33; claim 1; figures 1-9	1-30
A	US 5 994 911 A (OZAITA-MINTEGUI MARIA M ET AL) 30 November 1999 (1999-11-30) figures 3-7	1-30
A	US 5 943 552 A (KOVESHNIKOV SERGEI VIKTOR ET AL) 24 August 1999 (1999-08-24) figures 8,10	1-30
A	US 6 011 404 A (MA YI ET AL) 4 January 2000 (2000-01-04) figures 1-3	1-30
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☒ Patent family members are listed in annex.

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## C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category °	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	US 5 804 981 A (LOWELL JOHN K ET AL) 8 September 1998 (1998-09-08) abstract; figures 1,2 -----	1-30
A	WO 01/86698 A (KLA TENCOR INC) 15 November 2001 (2001-11-15) abstract; figures 1-5 -----	1-30

# INTERNATIONAL SEARCH REPORT

Information on patent family members

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