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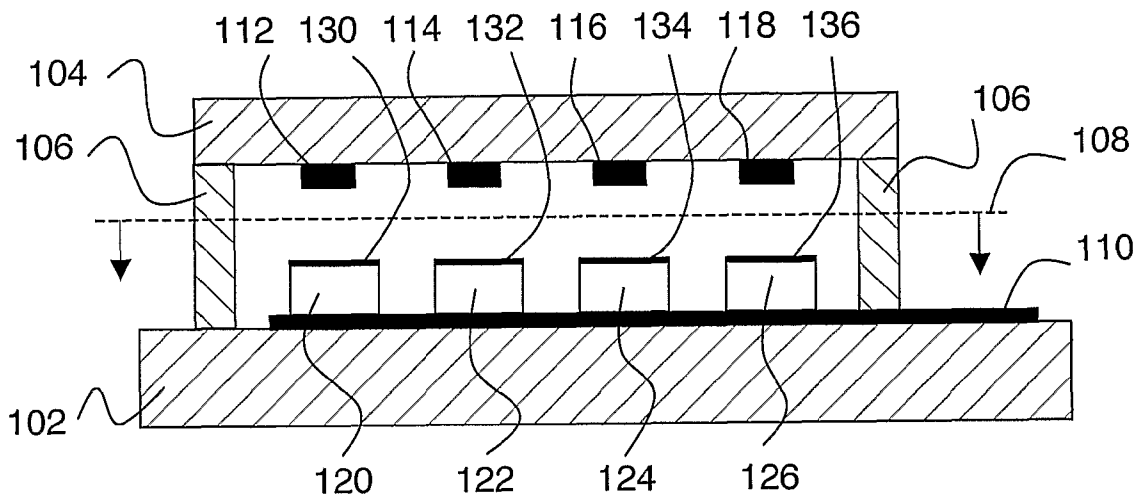
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(54) Title: FLEXIBLE IMAGING PRESSURE SENSOR



(57) Abstract: A sensor for a textured surface (e.g., a fingerprint) is provided. The sensor includes a flexible substrate and a flexible membrane supported above the substrate by one or more spacers. The sensor also includes multiple pressure sensor elements responsive to a separation between parts of the membrane and corresponding parts of the substrate. The membrane is conformable to the textured surface being sensed, so the variation in separation between substrate and membrane is representative of the textured surface being sensed. A preferred sensor array arrangement has a set of parallel substrate electrodes on the substrate facing the membrane and a set of parallel membrane electrodes on the membrane facing the substrate, where the substrate and membrane electrodes are perpendicular. The sensor array is preferably an entirely passive structure including no active electrical devices, to reduce cost. Row and column addressing circuitry can be provided as separate units (e.g., ASIC chips) to be hybrid integrated with the sensor array.

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INTERNATIONAL SEARCH REPORT

International application No.

PCT/US06/21430

A. CLASSIFICATION OF SUBJECT MATTER

IPC: **G01D 7/00**(2006.01)

USPC: 73/862.046

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. : 73/862.046

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched
NONE

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

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 6,862,942 B2 (KAWAHATA) 08 March 2005 (08.03.2005), see entire document.	1,4,7- 9,12,13,15,17,23,24,2 7- 30,32,33,36,40,42,43 ----- 2,3,14,16,34,35,37,38, 41,45
Y	US 6,889,565 B2 (DE CONDE et al.) 10 May 2005 (10.05.2005), see entire document.	2,3
Y	US 5,844,287 A (HASSAN et al.) 01 December 1998 (01.12.1998), see entire document.	14,41,45
Y	US 5,745,046 A (ITSUMI et al.) 28 April 1998 (28.04.1998), see entire document.	16

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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"P" document published prior to the international filing date but later than the priority date claimed		

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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.
Y	US 6,661,019 B2 (FURUSATO et al.) 09 December 2003 (09.12.2003), see entire document.	31
Y	US 6,680,485 B1 (CAREY et al.) 20 January 2004 (20.01.2004), see entire document.	34,37
Y	US 2004/0049363 A1 (SHIMIZA et al.) 11 March 2004 (11.03.2004), see entire document.	35,38
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A		5,6,10,11,18- 22,25,26,39,44

INTERNATIONAL SEARCH REPORT

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Continuation of B. FIELDS SEARCHED Item 3:

USPGPUB, USPAT, USOCR, EPO, JPO, DERWENT, IBM TDB search notes: spacer and (4 5), polymer and (4 5), layer and (4 5), (multiple two) with layer and (4 5), flex and (4 5), flex\$3 and (4 5), flex\$3 near3 rigid\$3 and (fingerprint).ab., (binary analog) and (4 5), resis\$5 and (4 5)