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- PN - [CN206670848U](#) U 20171124
- PR - CN20172308724U 20170328
- AP - CN20172308724U 20170328
- DT - I
- PA - BEIJING ZOO; NANJING BIO INSPIRED INTELLIGENT TECH CO LTD; UNIV BEIJING NORMAL
- TI - **Beak** impact force test system
- AB - The utility model relates to a **beak** impact force test system, it includes the **bird** food box, and the **bird** food box sets up on test host computer upper portion, is located test host computer lower part and is provided with adjustment mechanism, and the test host computer carries out data transmission with the host computer, the **bird** food box includes the hamper main part, and hamper main part bottom sets up on test host computer upper portion, and the hamper upper cover is located hamper main part top and becomes integrative with hamper main part sealing connection, being located hamper main part one side and being provided with the side door, hinge connection is passed through to side door one end on one side of the hamper main part, the side door other end is provided with the door handle, the test host computer includes the casing, and **sensor** settings is at the casing top for detecting the unfirmly closing force information of **bird** food box, and transmitting this unfirmly closing force information to data collection card, the unfirmly closing force information transmission that data collection card will gather is transmitted to the host computer after data processor handles, carries out data display and storage by the host computer, **sensor**, data collection card and data processor are by mains operated. The utility model discloses can effectively detect out unfirmly closing power size.

2/22 © EPODOC / EPO

- PN - [TW200638537](#) A 20061101
- PR - US20050112289 20050422
- AP - TW20060110147 20060323
- DT - I
- CCI - [H01L27/14603](#); [H01L27/14609](#); [H01L27/14689](#); [H04N5/357](#)
- PA - OMNIVISION TECH INC [US]
- TI - Selective smile formation under transfer gate in a CMOS image **sensor** pixel
- AB - A pixel includes a photodiode and transfer transistor. The transfer transistor is formed between the photodiode and a floating node and selectively operative to transfer a signal from the photodiode to the floating node. The transfer transistor has a **bird's beak** structure formed at the interface of its transfer gate and said floating node. Also included is a reset transistor for resetting the floating node to a voltage reference and amplification transistor controlled by the floating node.

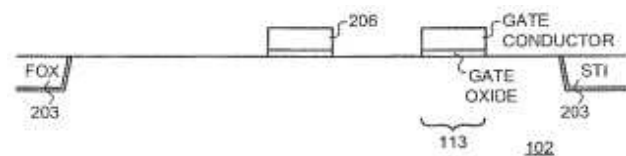


FIGURE 2

3/22 © EPODOC / EPO

- PN - [US9072288](#) B1 20150707
- PR - US201213716173 20121216; US201161577478P 20111219
- AP - US201213716173 20121216

[H01L27/1463](#) ; [H01L27/14641](#) ;
[H01L27/14689](#)

- FI - H01L21/76&M; H01L27/08&331B;
H01L27/08&331B; H01L27/14&A;
H01L27/146&A
- FT - 4M118/AA05; 4M118/AB01;
4M118/BA10; 4M118/BA14;
4M118/CA04; 4M118/DD04;
4M118/DD09; 4M118/DD12;
4M118/EA01; 4M118/EA03;
4M118/EA14; 4M118/EA16;
4M118/FA06; 4M118/FA26;
4M118/FA33; 4M118/GA02;
5F032/AA13; 5F032/AC01; 5F032/CA03;
5F032/CA15; 5F032/CA21; 5F032/DA03;
5F032/DA04; 5F032/DA12;
5F032/DA24; 5F032/DA43;
5F032/DA53; 5F032/DA77; 5F048/AB10;
5F048/AC03; 5F048/AC10; 5F048/BA02;
5F048/BC03; 5F048/BC06; 5F048/BC07;
5F048/BE04; 5F048/BE09; 5F048/BF18;
5F048/BG12; 5F048/BH07
- PA - (A)
CANON KK
- TI - (A)
MANUFACTURING METHOD FOR
SEMICONDUCTOR DEVICE, AND
MANUFACTURING METHOD FOR CMOS
IMAGE **SENSOR**
- AB - (A)
PROBLEM TO BE SOLVED: To reduce
the noise in a semiconductor device.
SOLUTION: A silicon oxide film 300 is
formed by thermally oxidizing a
silicon substrate 100 in a manner
that a silicon nitride film 200 which
covers a first part 110 of the silicon
substrate 100 and which does not
cover a second part 120 adjacent to
the first part 110 of the silicon
substrate 100 is used as a mask. An
impurity region 121 is formed by
performing oblique ion
implantation below a **bird's beak**
part 310 of the silicon oxide film 300
with the silicon nitride film 200
used as a mask.

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- PN - [US2008035940](#) A1 20080214
- PR - US20070974436
20071012; US20050112289 20050422
- AP - US20070974436 20071012
- DT - **
- CT - || R141 (A1)
[US5595922](#) A [];
[US2002008767](#) A1 [];

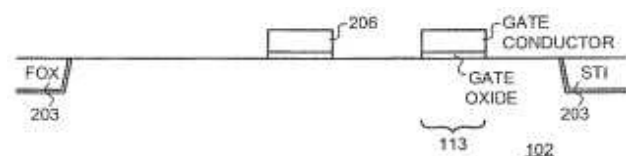


FIGURE 2

	US6351002 B1 []; US2004075110 A1 []; US6599805 B2 []; US6281079 B1 []; US5371026 A []; US2001055849 A1 []; US6329233 B1 []
CCI	- H01L27/14603 ; H01L27/14609 ; H01L27/14689 ; H04N5/357
TI	- Selective smile formation under transfer gate in a CMOS image sensor pixel
AB	- A pixel includes a photodiode and a transfer transistor. The transfer transistor is formed between the photodiode and a floating node and selectively operative to transfer a signal from the photodiode to the floating node. The transfer transistor has a bird's beak structure formed at the interface of its transfer gate and said floating node. Also included is a reset transistor for resetting the floating node to a voltage reference and an amplification transistor controlled by the floating node.
6/22 © EPODOC / EPO	
PN	- US6500041 B1 20021231
PR	- US20000695200 20001024; US19990161263P 19991025
AP	- US20000695200 20001024
DT	- *
CT	- US3901505 A []; US4268918 A []; US4488372 A []; US5329637 A []; US5404593 A []; US5426792 A []; US5680718 A []; US5742939 A []; US5781934 A []; US5921674 A []; US6070269 A []; US6223355 B1 []; DE29610036U U1 []
CCI	- A42B1/004 ; A63H33/00 ; G09F19/08
CCA	- Y10S2/905
TI	- Animated headsets
AB	- An animated head gear assembly that features an object that simulates an animal, fowl, caricature, inanimate object, and the like, to be worn on the head of a user. The object offers motion, such as the moving parts of a bird's beak , and a light to simulate the eyes or other item of the object. The animation may be activated by a remote source, such as a remote control, or by a motion sensor that frees the hands of the wearer.

PN - [US5759870](#) A 19980602

PR - US19950520055 19950828

AP - US19950520055 19950828

DT - *

CT - [US3858150](#) A []; [US3893228](#) A [];
[US3943915](#) A []; [US4021766](#) A [];
[US4100563](#) A []; [US4184189](#) A [];
[US4224537](#) A []; [US4243898](#) A [];
[US4250452](#) A []; [US4317126](#) A [];
[US4326171](#) A []; [US4463274](#) A [];
[US4465075](#) A []; [US4480983](#) A [];
[US4517547](#) A []; [US4655088](#) A [];
[US4658279](#) A []; [US4683757](#) A [];
[US4686764](#) A []; [US4704186](#) A [];
[US4708012](#) A []; [US4732042](#) A [];
[US4733553](#) A []; [US4889590](#) A [];
[US4995953](#) A []; [US4996082](#) A [];
[US5027081](#) A []; [US5031461](#) A [];
[US5074152](#) A []; [US5110758](#) A [];
[US5130276](#) A []; [US5132559](#) A [];
[US5220838](#) A []; [US5295395](#) A [];
[US5344523](#) A []; [US5536963](#) A []

CTNP - [] Motorola Semiconductor
Products Sector, Pressure Sensitive
Device Data, Jan. 1994 (Rev. 2),
pp. 3 18 to 3 21
[] SenSym Inc., Solid State
Pressure Sensors Handbook, 1993,
pp. A 19 to A 25 and 1 28 to 1 28
[] Bassous, Fabrication of Novel
Three Dimensional
Microstructures by the
Anisotropic Etching of (100) and
(110) Silicon, IEEE Trans. Electron
Devices, vol. ED 25,
No. 10. Oct. 1978, pp. 11780 to
1185
[] D. W. Burns, Micromechanics of
Integrated Sensors and the
Planar Processed Pressure
Transducer, Ph.D. Thesis,
Department of Material Science,
University of Wisconsin
Madison, 1988

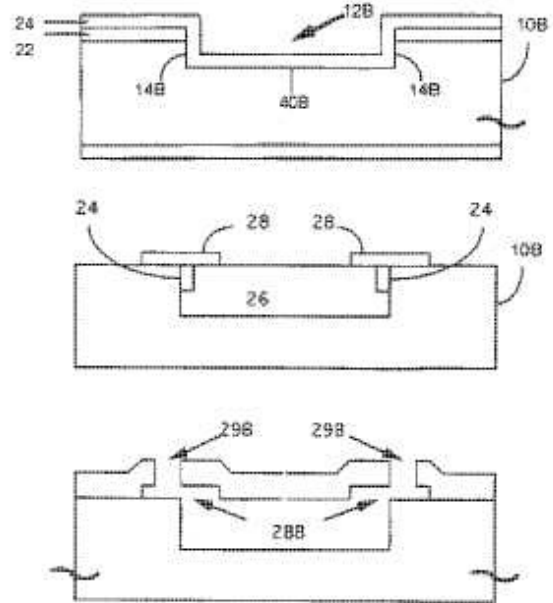
CCI - [B81C1/00047](#); [G01L9/0042](#);
[G01L9/0054](#); [G01L9/0055](#)

CCA - [B81B2201/0264](#); [B81B2203/0127](#);
[B81C2201/0178](#); [B81C2203/0136](#)

PA - BEI ELECTRONICS [US]

TI - Method of making a surface micro-
machined silicon pressure **sensor**

AB - Methods for surface micro-
machining silicon wafers, including
coating cavity sidewalls with
oxidation-resistant material to
prevent lateral oxidation. This in
turn prevents "**bird's beak**" during
formation of a diaphragm. The



methods are useful for, among other things, the manufacture of absolute-type pressure sensors. Along with bulk micro-machining techniques, the methods can be used to produce gauge- and differential-type pressure sensors, as well.

8/22 © EPODOC / EPO

- PN - [US2006240601](#) A1 20061026
- PR - US20050112289 20050422
- AP - US20050112289 20050422
- DT - **
- CT - || R141 (A1)
[US5595922](#) A [];
[US2002008767](#) A1 [];
[US6351002](#) B1 [];
[US2004075110](#) A1 [];
[US6599805](#) B2 [];
[US6281079](#) B1 [];
[US5371026](#) A [];
[US2001055849](#) A1 [];
[US6329233](#) B1 []
- CCI - [H01L27/14603](#) ; [H01L27/14609](#) ;
[H01L27/14689](#) ; [H04N5/357](#)
- PA - OMNIVISION TECH INC [US]
- TI - Selective smile formation under transfer gate in a CMOS image **sensor** pixel
- AB - A pixel includes a photodiode and a transfer transistor. The transfer transistor is formed between the photodiode and a floating node and selectively operative to transfer a signal from the photodiode to the floating node. The transfer transistor has a **bird's beak** structure formed at the interface of its transfer gate and said floating node. Also included is a reset transistor for resetting the floating node to a voltage reference and an amplification transistor controlled by the floating node.

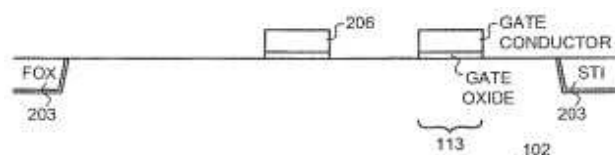


FIGURE 2

9/22 © EPODOC / EPO

- PN - [KR20020034306](#) A 20020509
- PR - KR20000064430 20001031
- AP - KR20000064430 20001031
- DT - I
- PA - HYNIX SEMICONDUCTOR INC [KR]
- TI - METHOD FOR ISOLATING PIXEL OF COMPLEMENTARY-METAL-OXIDE-SEMICONDUCTOR IMAGE **SENSOR**
- AB - PURPOSE: A method for isolating a pixel of a complementary-metal-oxide-semiconductor (CMOS) image **sensor** is provided to improve a fill factor and a noise characteristic and to prevent a cross talk, by isolating pixels without generating a **bird's beak** so that the area of

a pinned photodiode is reduced. CONSTITUTION: An isolation mask of which the field region is opened is formed on a substrate(201). An isolating impurity layer(205) is formed by an ion implantation process. The isolation mask is removed. The pinned photodiode is formed in an active region by a pinned photodiode mask and an ion implantation process.

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PN - [KR20020014315](#) A 20020225
 PR - KR20000047523 20000817
 AP - KR20000047523 20000817
 DT - I
 PA - HYNIX SEMICONDUCTOR INC [KR]
 TI - METHOD FOR FORMING IMAGE **SENSOR** CAPABLE OF PREVENTING CROSS TALK BETWEEN ADJACENT PIXELS AND REDUCTION OF ACTIVE REGION
 AB - PURPOSE: A method for forming an image **sensor** is provided to prevent a cross talk between unit pixels as well as individual transistors by forming a device on an epitaxial silicon layer separated by a thick oxide layer, and to prevent an area of an active region from being reduced by a **bird's beak** by eliminating a process for forming a filed oxide layer. CONSTITUTION: An insulation layer is formed on a semiconductor substrate(30). An etch mask covering an isolation region is formed on the insulation layer. The insulation layer not covered with the etch mask is selectively etched to form an insulation layer pattern for an isolation between pixels while the semiconductor substrate is exposed. The etch mask is removed. The epitaxial semiconductor layer(32) forming the active region is formed on the exposed semiconductor substrate. The image **sensor** including an optical sensing unit, a signal transfer unit and a signal process unit is formed on the active region.

11/22 © EPODOC / EPO

PN - [KR920006756B](#) B1 19920817
 PR - KR19890012976 19890908
 AP - KR19890012976 19890908
 DT - I
 PA - SAMSUNG ELECTRONICS CO LTD [KR]
 TI - SOLID STATE IMAGER
 AB - The solid state image **sensor** of a charge coupled device type using the photo accumulation effect of photo diode is manufactured by using the trench structure depositing the insulating material at the picture element seperation region. The decrease of effective width in vertical transmission channel is inhibited by preventing the **bird's beak** shape generating in time of forming a field oxide by local oxidation method. The noise is inhibited by a preventing the leakage current. The packing density is improved by increasing the picture element number using the trench structure.

12/22 © EPODOC / EPO

PN - [JP2000140446](#) A 20000523
 PR - JP19980359979 19981112
 AP - JP19980359979 19981112
 DT - I
 FI - A01K45/00&C; A63H13/02&K; A63H3/33&B
 FT - 2C150/BA07; 2C150/BA11; 2C150/CA02; 2C150/DF04; 2C150/DF06; 2C150/DF32; 2C150/DG43; 2C150/ED56; 2C150/EF07; 2C150/EF16; 2C150/EF29; 2C150/FA04; 2C150/FA42
 PA - UNNO MASAKATSU; HIROKI KAZUKO
 TI - SOUND RECORDING AND REPRODUCING TOY FOR SMALL **BIRD**
 AB - PROBLEM TO BE SOLVED: To provide a sound recording and reproducing toy for a small **bird** for a pet provided with a function for making the small **bird** with the ability of imitating and speaking the words of a human able to automatically memorize a recorded optional word with interest without becoming cautious. SOLUTION: On the toy body 1 of this toy, a doll 2 of

the small **bird** as an object is formed or a mirror is provided and a sensing part 4 and a fastener 3 to be attached to a raising basket (a) are provided. In the inside of the toy body 1, a sound recording and reproducing device 7 using a sound recording IC, a **sensor** for the small **bird** for sensing the time when the small **bird** pecks at the sensing part 4 with a **beak** and a **sensor** circuit for receiving signals from the **sensor** for the small **bird**, originating the signals for reproducing recorded sound to the sound recording and reproducing device 7 and inhibiting the next reproduction at least during the reproducing time of the recorded sound are provided.

13/22 © EPODOC / EPO

PN - [JPH11186533](#) A 19990709
 PR - JP19970349657 19971218
 AP - JP19970349657 19971218
 DT - I
 FI - H01L27/14&A; H01L27/146&A
 FT - 4M118/AA01; 4M118/AA10; 4M118/AB01; 4M118/BA14; 4M118/CA03; 4M118/CA04; 4M118/EA01; 4M118/EA06; 4M118/EA07; 4M118/FA26; 4M118/FA28
 PA - SEIKO INSTR INC
 TI - IMAGE **SENSOR**
 AB - PROBLEM TO BE SOLVED: To improve detection sensitivity by providing a boundary between an external silicon oxide film and a region where there is no internal oxide film in an internal side of a junction side surface of a P-type low concentration region and also in specified regions. SOLUTION: A P-type low concentration region 2 is provided within an N-type silicon substrate 1, a LOCOS oxide film 4 is provided for surrounding the external side of the P-type low concentration region 2, and a **bird's beak** top point 10 as a boundary where there is no LOCOS oxide film 4 formed at the external side of such low concentration region 2 is formed in the layout by taking into consideration spread of diffusion, growth of **bird's beak** by oxidation, deflection of alignment, and positional deviation generated during the process such as CD bias, and it is set within 2 μm at the internal side from the side surface of the P-type low concentration region 2. Moreover, the P-type high concentration region 3 which is shallower than the region 2 where there is no LOCOS oxide film 4 is formed.

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PN - [JPH0653478](#) A 19940225
 PNFP - JP3034701B B2 20000417
 PR - JP19920225100 19920731
 AP - JP19920225100 19920731
 DT - I
 CCI - [H01L27/14806](#) ; [H01L27/14843](#)
 FI - H01L27/14&B; H01L27/14&K; H01L27/144&K; H01L27/148&B; H04N5/33; H04N5/335&690; H04N5/335&728; H04N5/369; H04N5/3728
 FT - 4M118/AA10; 4M118/AB01; 4M118/BA16; 4M118/CA05; 4M118/DA03; 4M118/DD04; 4M118/EA16; 4M118/FA06; 4M118/FA26; 4M118/FA28; 4M118/GA10; 5C024/AA06; 5C024/AX06; 5C024/BX00; 5C024/BX04; 5C024/CA12; 5C024/CA31; 5C024/CX41; 5C024/CY47; 5C024/GA01; 5C024/GA06; 5C024/GA16; 5C024/GA26; 5C024/GA53; 5C024/GX01; 5C024/GX03; 5C024/GX08; 5C024/GX12; 5C024/GX16; 5C024/GY01; 5C024/GY29
 PA - (A)
 MITSUBISHI ELECTRIC CORP
 TI - (A)
 IMAGE **SENSOR** AND FABRICATION THEREOF
 AB - (A)
 PURPOSE: To enhance aperture ratio by forming field oxide thinner in a pixel part region arranged with each unit pixel part as compared with other parts on a substrate.
 CONSTITUTION: A field oxide 15a for isolating infrared detecting elements from each other in a unit pixel part 100 and for isolating the infrared detecting element from the channel

region 3 of vertical CSd is formed thin in a pixel part region 101a by slightly etching a conventional field oxide 5 together with a substrate 1. Since **bird's beak** part of field oxide biting into element region recedes in the pixel region, occupation area of optical detecting element increases substantially in the unit pixel part resulting in the enhancement of aperture ratio.

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PN - [JPS6351669](#) A 19880304
 PR - JP19860196307 19860821
 AP - JP19860196307 19860821
 DT - I
 CCI - [H01L27/14831](#)
 FI - H01L27/14&B; H01L27/148&B; H04N5/335&F; H04N5/335&410; H04N5/335&550; H04N5/335&610; H04N5/335&690; H04N5/335&725; H04N5/341; H04N5/355; H04N5/361; H04N5/369; H04N5/3725
 FT - 4M118/AA02; 4M118/AA05; 4M118/AA10; 4M118/AB01; 4M118/BA12; 4M118/FA12; 4M118/FA13; 4M118/FA14; 4M118/FA26; 4M118/GB15; 5C024/AA01; 5C024/CA10; 5C024/CA12; 5C024/CA15; 5C024/CX32; 5C024/CX41; 5C024/FA01; 5C024/FA11; 5C024/GA11; 5C024/GA15; 5C024/GA26; 5C024/GA45; 5C024/GY03; 5C024/GZ03; 5C024/GZ06; 5C024/GZ34; 5C024/JA21; 5C024/JA25; 5C024/JX23
 PA - TANAKA SHOICHI
 TI - FRAME TRANSFER SOLID-STATE IMAGE PICKUP ELEMENT
 AB - PURPOSE:To reduce the thermal noise charge of an FT **sensor** and to simplify the structure and manufacturing process of the FT **sensor** by a method wherein the potential of an overflow barrier region is set shallower than those of opening regions for the period of signal charge storage. CONSTITUTION:Boron ions are implanted in a CH-B region 6, a thin insulating film 14 is formed in the surface of a region 15, transfer electrodes 9a and 9b are provided thereon and thereafter, boron ions are implanted in the surfaces of opening regions 4a and 4b. Then, phosphorus ions are implanted in an overflow drain region 1 surrounded with a channel stop region 3 and a CH-B region 2. The overflow barrier region 2 can be manufactured by the same process as those of the opening regions 4a and 4b. The channel width of the region 2 can be made very thin by the effect of **bird's beak**. As a result, the channel potential of the overflow barrier region 2 can be set shallower by a constant voltage than those of the opening regions due to a narrow channel effect. Moreover, as signal charge can be stored in the opening regions as well for the period of signal charge storage, the dynamic range is improved and as the field strength in the surface of a CCD channel at that time is small, the generation of thermal noise charge is lessened.

16/22 © EPODOC / EPO

PN - [JPH0414270](#) A 19920120
 PNFP - JP2879588B B2 19990405
 PR - JP19900116662 19900502
 AP - JP19900116662 19900502
 DT - I
 FI - H01L43/12
 FT - 5F092/AA02; 5F092/AA11; 5F092/AA12; 5F092/AB01; 5F092/AC04; 5F092/AD06; 5F092/BB04; 5F092/BB46; 5F092/BB55; 5F092/BC42; 5F092/CA25
 PA - (A)
 GLORY KOGYO KK
 TI - (A)
 MANUFACTURE OF MAGNETIC **SENSOR**
 AB - (A)
 PURPOSE:To excellently control the orientation of pin type metal, and improve the sensitivity of a **sensor**, by forming an Ni thin film or a nickel antimony thin film on an InSb thin film, and recrystallizing it by a zone melt recrystallizing method. CONSTITUTION:A specified element region is formed on the silicon substrate 1 surface; a silicon oxide film 2

is formed; an InSb film 3 is formed; thereon an Ni thin film 4 is formed; a pattern having a **bird's beak** type seed part S for zone melt heating use is formed; thereon In₂O₃, SiO₂, etc., are formed and used as a protecting film at the time of melting; in a vacuum, the substrate is heated on a lower heater H1, up to a specified temperature; a narrow zone is heated and melted by using a strip type upper heater H2; by moving said heater H2, every fine region is single-crystallized in succession. Hence Ni combines with Sb, and turns to NiSb of pin type metal, so that a magnetic thin film 5 is formed, in which a lot of pin type metals are oriented in the running direction of the heater H2. Finally a meander type pattern is formed; thereon indium is vacuum-evaporated as an electrode and patterned, thereby completing a magneto resistance element.

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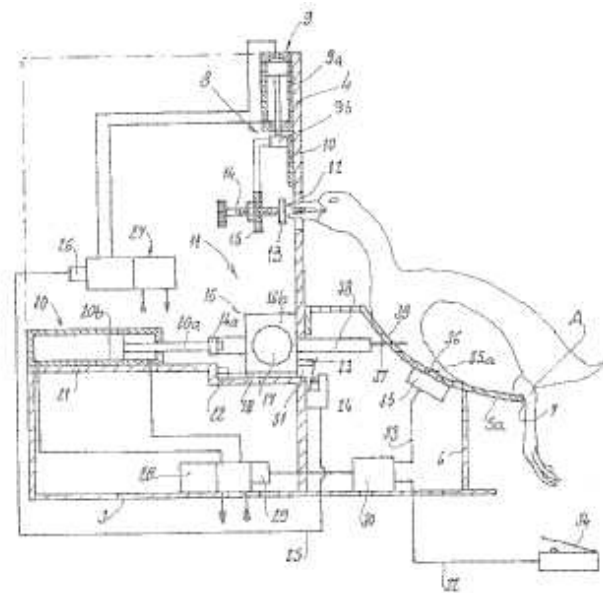
PN - [JPH04291965](#) A 19921016
 PR - JP19910057291 19910320
 AP - JP19910057291 19910320
 DT - I
 FI - H01L27/14&B; H01L27/148&B
 FT - 4M118/AA01; 4M118/AA05; 4M118/AA10; 4M118/AB01; 4M118/BA13; 4M118/CA03; 4M118/CA04; 4M118/CA27; 4M118/DA03; 4M118/DB06; 4M118/DB13; 4M118/EA06; 4M118/EA07; 4M118/EA14; 4M118/FA06; 4M118/FA26; 4M118/FA31; 4M118/FA35; 4M118/GB03; 4M118/GB06; 4M118/GB11
 PA - FUJITSU LTD
 TI - SOLID-STATE IMAGE **SENSOR** AND MANUFACTURE THEREOF
 AB - PURPOSE:To highly integrate by narrowing an element isolating region, to improve light shielding properties and to reduce leakage of a light. CONSTITUTION:A thin insulating film having no **bird's beak** is formed on a surface of a semiconductor layer 2 on an element isolating region S between a photoelectric element 1 and a charge transfer device 4 by a CVD method or thermal oxidation without using a mask, a conductive light shielding film 10 is formed thereon, the film 10 is held, for example, at a zero potential, and extension of a depletion layer to the layer 2 of the region S is prevented.

18/22 © EPODOC / EPO

PN - [JPH05206436](#) A 19930813
 PR - JP19920014513 19920130
 AP - JP19920014513 19920130
 DT - I
 FI - H01L27/14&B; H01L27/148&B; H01L31/10&A
 FT - 4M118/AA05; 4M118/AA10; 4M118/AB01; 4M118/BA13; 4M118/CA03; 4M118/CA32; 4M118/DA03; 4M118/DA28; 4M118/EA14; 4M118/EA17; 4M118/FA06; 4M118/FA13; 4M118/FA35; 5F049/AA02; 5F049/AB03; 5F049/BA05; 5F049/BA08; 5F049/BB05; 5F049/CA10; 5F049/CA11; 5F049/CA14; 5F049/FA05; 5F049/HA12; 5F049/HA13; 5F049/MA02; 5F049/MB03; 5F049/NA05; 5F049/NA08; 5F049/NB05; 5F049/PA10; 5F049/PA11; 5F049/PA14; 5F049/SE05; 5F049/SZ12; 5F049/SZ13; 5F849/AA02; 5F849/AB03; 5F849/AB17; 5F849/BA04; 5F849/BA05; 5F849/BA18; 5F849/BA28; 5F849/BB03; 5F849/CB11; 5F849/CB12; 5F849/CB14; 5F849/EA04; 5F849/EA13; 5F849/FA01; 5F849/GA04; 5F849/XB36; 5F849/XB51
 PA - MATSUSHITA ELECTRONICS CORP
 TI - SOLID STATE IMAGE **SENSOR** AND FABRICATION THEREOF
 AB - PURPOSE:To provide a solid state image **sensor** in which lowering of yield due to clear defect is eliminated and low dark current characteristics are realized. CONSTITUTION:Gate insulation film of a solid state image **sensor** is modified to a lamination structure of silicon oxide 5 - silicon nitride 12 and oxide 13, a region for forming the silicon nitride 12 is set longer and wider than a polysilicon gate electrode 6, and crystal distortion in a silicon substrate 1 caused by a gate **bird's beak** during a following process is isolated from the polysilicon gate electrode and located in a p<+> type region 9 on the surface of a photodiode thus recombining electrons, produced due to the crystal distortion, in the p<+> layer.

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- PN - [FR2839245](#) A1 20031107
- PNFP - FR2839245 B1 20040611
- PR - FR20020005763 20020503
- AP - FR20020005763 20020503
- DT - *; Rep
- CT - || STSE (A1)
[FR2276839](#) A1 19760130 [A] (LISSOT JEAN [FR])
 [A] 1,3
 * page 4, lines 7-27 *
 * page 5, lines 27-32; figures 1-3 *;
[FR2281060](#) A1 19760305 [A] (LISSOT JEAN [FR])
 [A] 1
 * page 2, line 21 - page 3, line 5 *
 * page 4, lines 24-36; figure 1 *;
[US4681565](#) A 19870721
 [A] (GOURLANDT ALBERT J A [FR])
 [A] 1
 * the whole document *;
[FR2781333](#) A1 20000128
 [DA] (TROUILLOUX DANIEL [FR])
 [DA] 1
 * the whole document *
- CCI - [A61D1/005](#) ; [A61D1/025](#)
- PA - (A1 B1)
 TROUILLOUX DANIEL [FR]
- TI - (A1)
 Sanitary treatment unit used for ducklings has cradle with **sensor** actuating **beak** tip cutter and injection syringe
- AB - (A1)
 Sanitary treatment unit combining **beak** tip cutting and vaccination operations, has a cradle (5a) to support each duckling by the breast, positioned so that the **beak** goes into a slot (12) with the **beak** tip cutter behind it. A **sensor** (35) with a feeler (35a) detects the presence of a **bird** as it is pressed against the cradle and actuates a vaccination syringe (38) and the **beak** cutter at the same time, both operated by pneumatic cylinders (9, 20).



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- PN - [EP1715678](#) A1 20061025
- PNFP - EP1715678 B1 20100609
- PR - US20050112289 20050422
- AP - EP20060251943 20060406
- DT - *; Rep
- CT - || STSE (A1)

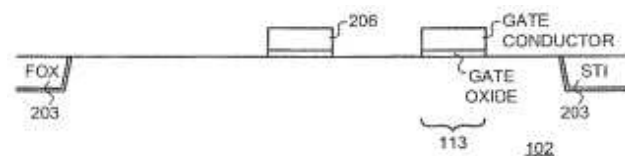


FIGURE 2

[WO0021280](#) A1 20000413

[XA] (CALIFORNIA INST OF TECHN [US])

[X] 1,5,9

* abstract *

* page 1, lines 15-18 *

* page 2, lines 8-13 *

* page 3, lines 3-9 *

* page 4, lines 9-16 *

* page 7, lines 14-18 *

* page 10, lines 15-19 *

* page 11, lines 17-19 *

* page 12, line 9 - page 15, line 2 *

* figure 1 *

* figure 4 *

* figure 6 *

[A] 1-12;

[US6329233](#) B1 20011211 [YA] (PAN JUI-

HSIANG [TW], et al)

[Y] 1,5,9

* abstract *

* column 1, lines 19-22 *

* column 1, lines 26-37 *

* column 1, lines 44-48 *

* column 2, lines 65-67 *

* figure 1A *

[A] 1-12;

[US2002008767](#) A1 20020124 [YA] (LEE

DO-YOUNG [KR])

[Y] 1,9

* abstract *

* paragraphs [0025] , [0030] *

* figure 5 *

[A] 1-12;

[US2004075110](#) A1 20040422

[YA] (YAUNG DUN-NIAN [TW], et al)

[Y] 5

* abstract *

* paragraphs [0004] , [0006] , [0007] ,
[0013] , [0030] , [0041]; figures 3,6 *

[A] 1-12;

[US6351002](#) B1 20020226 [A] (PAN JUI-

HSIANG [TW])

[A] 1-12

* the whole document *;

[US2001055849](#) A1 20011227 [A] (PAN

JUI-HSIANG [TW], et al)

[A] 1-12

* the whole document *

CCI - [H01L27/14603](#) ; [H01L27/14609](#) ;
[H01L27/14689](#) ; [H04N5/357](#)

PA - (A1 B1)
OMNIVISION TECH INC [US]

TI - (A1 B1)
Selective smile formation under
transfer gate in a CMOS image **sensor**
pixel

AB - (A1)
A pixel includes a photodiode and a
transfer transistor. The transfer

transistor is formed between the photodiode and a floating node and selectively operative to transfer a signal from the photodiode to the floating node. The transfer transistor has a **bird's beak** structure formed at the interface of its transfer gate and said floating node. Also included is a reset transistor for resetting the floating node to a voltage reference and an amplification transistor controlled by the floating node.

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- PN - [DE10215513](#) C1 20030814
- PR - DE2002115513 20020409
- AP - DE2002115513 20020409
- DT - **
- CTNP - || STSE (C1)
[] - NICHTS ERMITTELT
- CCI - [A01K31/07](#) ; [F24F7/00](#)
- CCA - [F24F2110/70](#)
- PA - GRABENMEIER SIEGFRIED [DE]
- TI - Ventilation system for transport cage for racing pigeon or message-carrying pigeon has timer and **sensor** for measuring expired carbon dioxide
- AB - The cage (1) may be loaded into a lorry or other form of transport and has a cage for the **bird** with a restraint jacket (2) and a breathing mask (3) fitting over the **bird's beak**. The mask is connected to a tube (4) forming one arm of a four-way junction (5). The other three arms have a valve (15) giving access to the environment and one-way valves (6,7). Air may enter through one valve and exit through the other. The exit tube (4a) goes to a junction (8) and a valve (10) gives access to a sealed piston (11) and a measuring bag (13). There is a timer (19), a thermometer (18) and a U-tube manometer (17) with a shutoff valve (16) and a measuring scale (17b).

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- PN - [CN1851902](#) A 20061025
- PNFP - CN100411142C C 20080813
- PR - US20050112289 20050422
- AP - CN2006179259 20060424
- DT - I
- CCI - [H01L27/14689](#) ; [H01L27/14603](#) ;
[H01L27/14609](#) ; [H04N5/357](#)
- PA - (A C)
OMNIVISION TECH INC [US]
- TI - (A C)
CMOS image **sensor** pixel with smile structure under transfer gate
- AB - (A)
A pixel includes a photodiode and a transfer transistor. The transfer transistor is formed between the photodiode and a floating node and selectively operative to transfer a signal from the photodiode to the

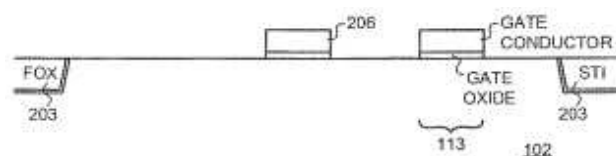


FIGURE 2

floating node. The transfer transistor has a **bird's beak** structure formed at the interface of its transfer gate and said floating node. Also included is a reset transistor for resetting the floating node to a voltage reference and an amplification transistor controlled by the floating node.