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Kim

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(54) **ORGANIC LIGHT EMITTING DISPLAY**

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(73) Assignee: **LG Display Co., Ltd.**, Seoul (KR)

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(51) **Int. Cl.**
H05B 33/00 (2006.01)

(52) **U.S. Cl.** **313/504**; 313/503

(58) **Field of Classification Search** .... None
See application file for complete search history.

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(57) **ABSTRACT**

The present invention provides an organic light emitting display comprising: a substrate; thin film transistors positioned on the substrate and comprising a source electrode and a drain electrode; an organic light emitting diode comprising a first electrode connected to the source electrode and the drain electrode of one of the thin film transistors, an emission layer positioned on the first electrode and a second electrode positioned on the emission layer; and a capacitor comprising a first storage electrode positioned on the same layer as the source electrode and the drain electrode, a second storage electrode positioned on the same layer as the first electrode, and an insulating layer positioned between the two storage electrodes.

18 Claims, 3 Drawing Sheets

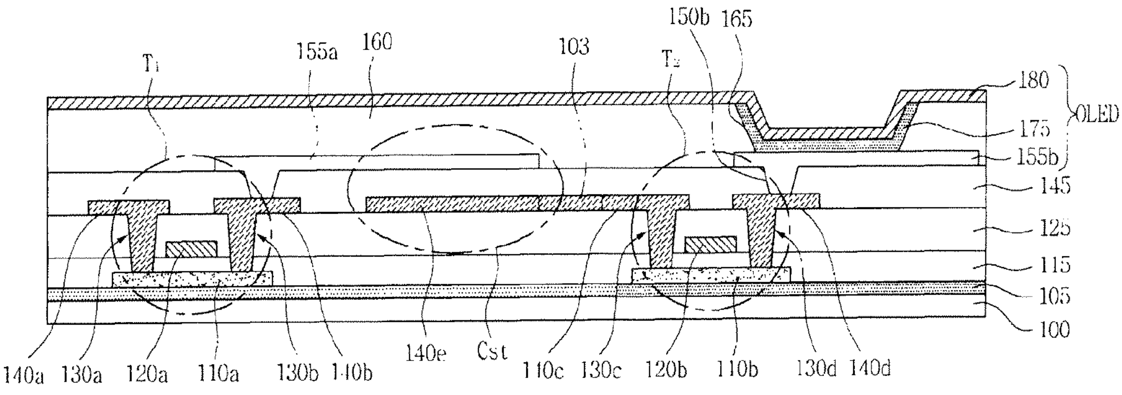


FIG. 1

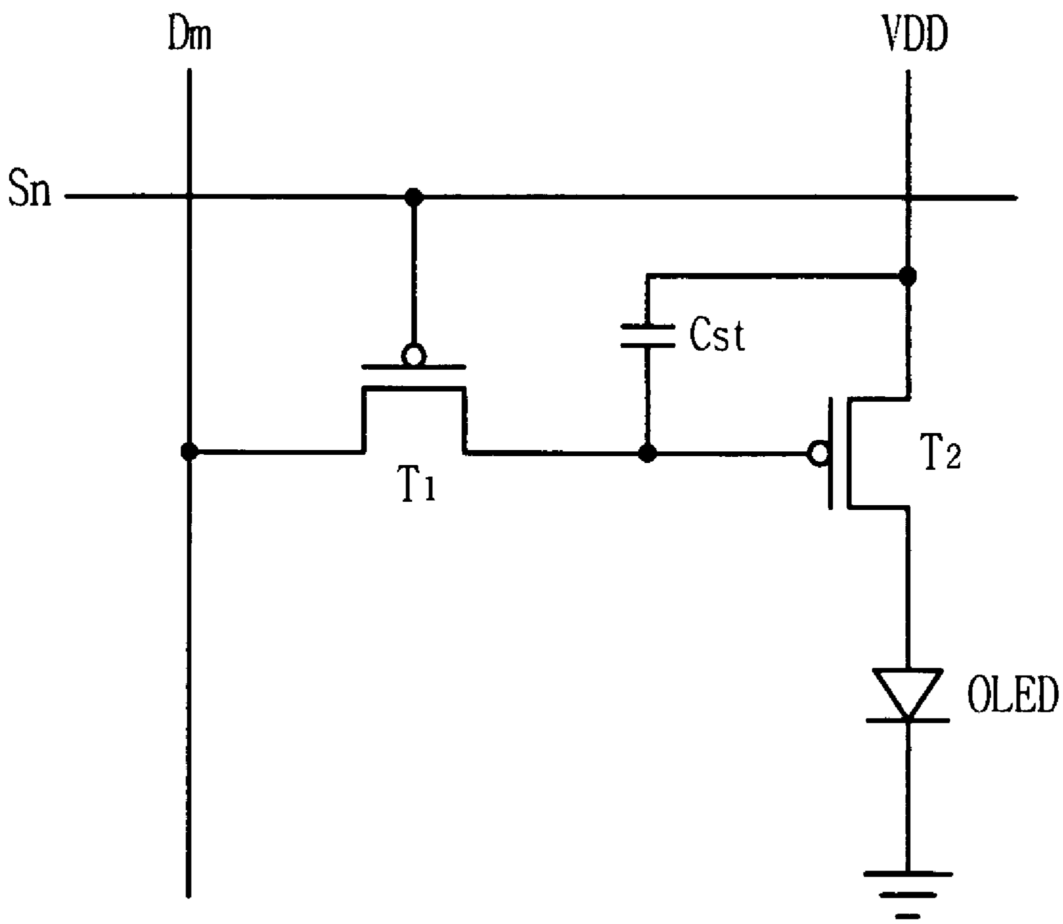


FIG. 2

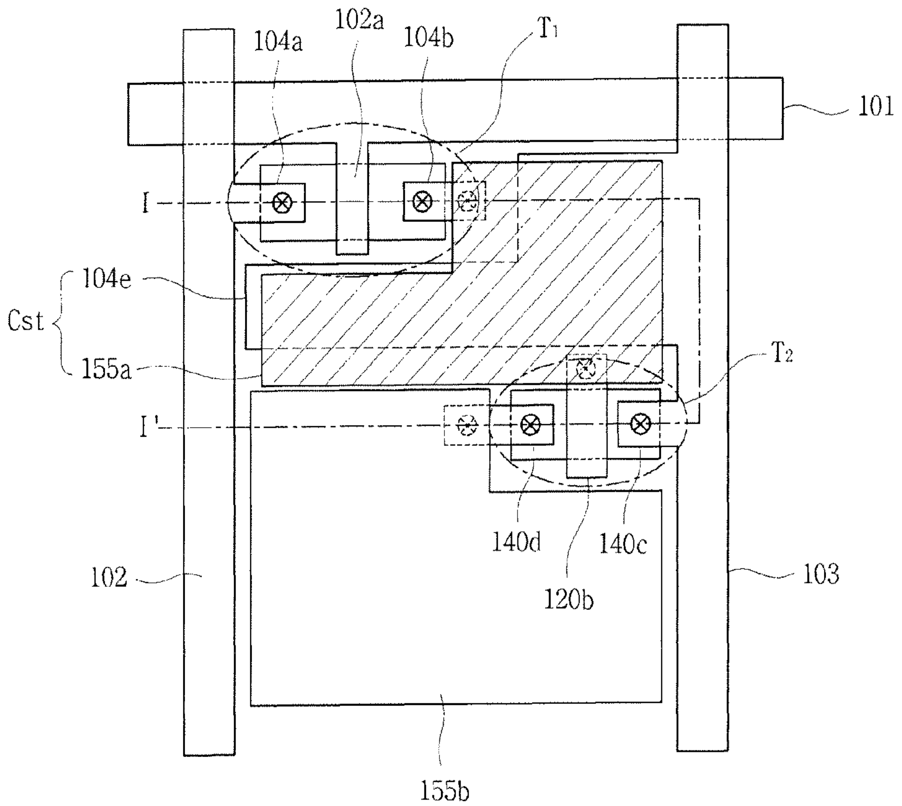

104a
102a
104b
T1
101
I
104e
Cst
155a
T2
I'
140d
140c
120b
102
103
155b

FIG. 3

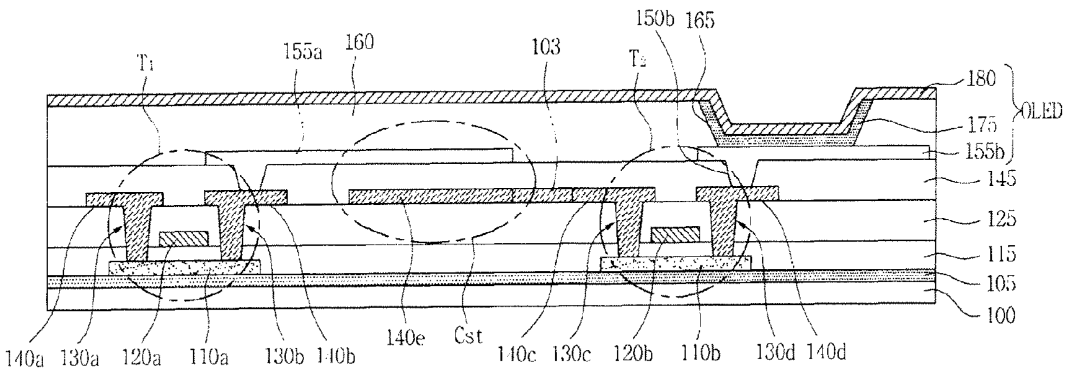

T1
155a
160
103
150b
165
T2
180
OLED
175
155b
145
125
115
105
100
140a
130a
120a
110a
130b
140b
140e
Cst
140c
130c
120b
110b
130d
140d

FIG. 4

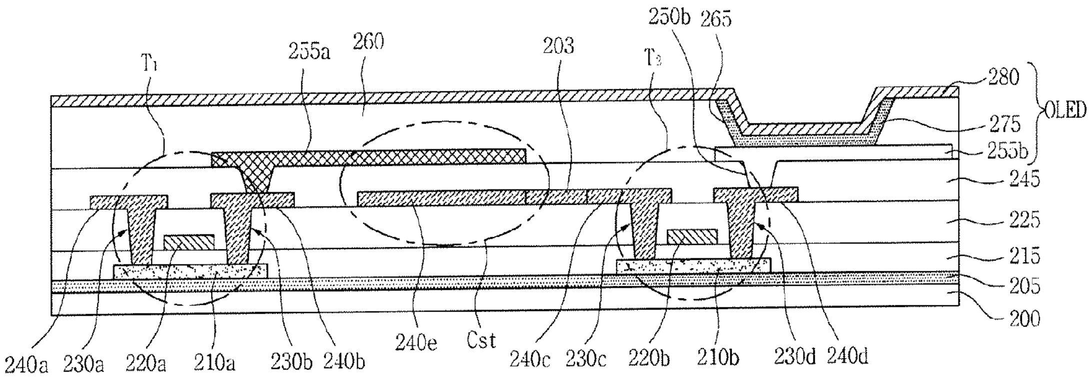
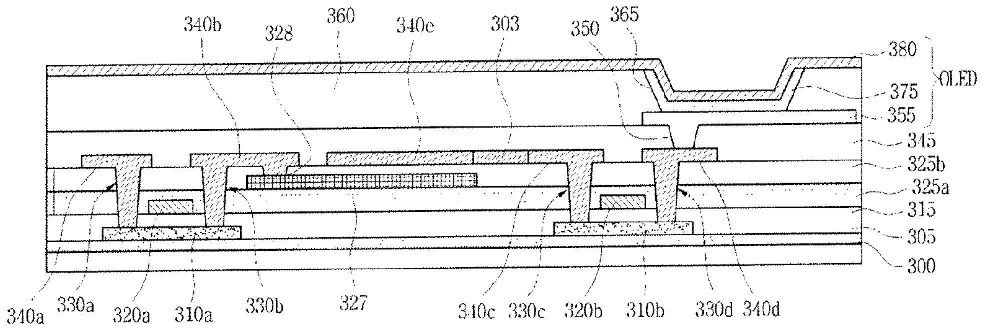

T1
255a
260
203
T2
250b
265
280
275
255b
OLED
245
225
215
205
200
240a
230a
220a
210a
230b
240b
240e
Cst
240c
230c
220b
210b
230d
240d

FIG. 5


340b
328
360
340c
303
350
365
380
375
355
OLED
345
325b
325a
315
305
300
340a
330a
320a
310a
330b
327
340c
330c
320b
310b
330d
340d

ORGANIC LIGHT EMITTING DISPLAY

CROSS-REFERENCE

This application claims the benefit of Korean Patent Application No. 10-2005-0129109 filed on Dec. 23, 2005, in the Korean Intellectual Property Office, the disclosure of which is incorporated herein by reference.

BACKGROUND

1. Field

The present invention relates to an organic light emitting display.

2. Related Art

Recently, as multimedia applications and their use increase, the more important the flat panel displays (FPD) become. Hence, various flat panel displays such as a liquid crystal display (LCD), a plasma display panel (PDP) or an organic light emitting display are used more and more. The organic light emitting display has rapid response time, low power consumption, and self-emission structure.

Furthermore, the organic light emitting display has a wide viewing angle, so that it can excellently display a moving picture regardless of the size of the screen or the position of a viewer. Because the organic light emitting display may be manufactured in low temperature environment and by using a semiconductor fabrication process, the organic light emitting display has a simple manufacturing process. Hence, the organic light emitting display is attractive as a next generation display.

Generally, the organic light emitting display emits light by electrically exciting an organic compound. To display a predetermined image, the organic light emitting display has N×M organic light emitting diodes arranged in a matrix format and may be voltage driven or current driven. The driving methods of the organic light emitting display include a passive type and an active type using a thin film transistor.

A pixel circuit of an organic light emitting display in an active type comprises at least a switching transistor, a capacitor, a driving transistor and a light emitting diode. And, the transistors may comprise a semiconductor layer, which is formed of poly-silicon having excellent mobility.

The semiconductor layer comprising the poly-silicon has non-uniformity in grain size so that the difference of threshold voltage occurs among the driving transistors of each pixel circuit. Therefore, the pixel circuit comprises more transistors in order to compensate for it so that the structure of the pixel circuit has been variously changed.

As described above, when a number of transistors are used in order to compensate for the difference of the threshold voltage among each pixel circuit, aperture ratio is significantly reduced. Also, the storage electrodes of a capacitor are mainly formed simultaneously with a semiconductor layer, a gate electrode or a source electrode and a drain electrode of the transistors. However, as the area occupied by the transistors becomes large, the area on which the capacitor is formed reduces, causing a problem that the performance of the capacitor is deteriorated.

SUMMARY

Accordingly, the present invention is provided to substantially obviate one or more problems due to limitations and disadvantages of the related art.

To achieve these and other advantages and in accordance with the purpose of the present invention, there is provided an organic light emitting display. The organic light emitting display comprises: a substrate; thin film transistors comprising a source electrode and a drain electrode; an organic light emitting diode comprising a first electrode connected to the source electrode and the drain electrode of one of the thin film transistors, an emission layer positioned on the first electrode and a second electrode positioned on the emission layer; and a capacitor comprising a first storage electrode positioned on the same layer as the source electrode and the drain electrode, a second storage electrode positioned on the same layer as the first electrode, and an insulating layer positioned between the two storage electrodes.

There is provided an organic light emitting display. The organic light emitting display comprises: a substrate; thin film transistors positioned on the substrate and comprising a gate electrode, a source electrode and a drain electrode and at least two insulating layers positioned between the gate electrode and the source electrode and the drain electrode; and a capacitor comprising a first storage electrode positioned between the insulating layers and a second storage electrode positioned on the same layer as source electrode and the drain electrode.

BRIEF DESCRIPTION OF THE DRAWINGS

FIG. **1** is a circuit view showing a pixel circuit of a conventional organic light emitting display.

FIG. **2** is a plane view showing an organic light emitting display according to a first embodiment of the present invention.

FIG. **3** is a cross-sectional view of the organic light emitting display taken along line I-I' in FIG. **2**.

FIG. **4** is a cross-sectional view showing an organic light emitting display according to a second embodiment of the present invention.

FIG. **5** is a cross-sectional view showing a capacitor of an organic light emitting display according to a third embodiment of the present invention.

DESCRIPTION OF THE EMBODIMENTS

Referring to FIG. **1**, a pixel circuit of an organic light emitting display according to a first embodiment of the present invention comprises a switching transistor T**1** transferring a data signal from a data line Dm in response to a selection signal from a scan line Sn, a capacitor Cst for storing the data signal received through the switching transistor T**1**, a driving transistor T**2** for generating driving current according to the data signal stored in the capacitor Cst, and an organic light emitting diode OLED for performing the light emitting operation according to the driving current.

The constitution of the organic light emitting display according to the first embodiment of the present invention, for implementing the pixel circuit as shown in FIG. **1**, is as follows.

Referring to FIGS. **2** and **3**, the sub pixel region of the organic light emitting display according to the first embodiment is limited by the intersection of a scan line **101**, a data line **102**, and a power line **103**. And, in the sub pixel region a switching transistor T**1**, a driving transistor T**2**, a capacitor Cst and an organic light emitting diode OLED are positioned. Hereinafter, the organic light emitting display according to the first embodiment will be described in more detail with reference to FIG. **3** which is a cross-sectional view taken along line I-I' in FIG. **2**.

A buffer layer **105** is positioned on a substrate **100** formed of glass, plastic or metal. The buffer layer **105** is formed to protect a thin film transistor to be formed in a subsequent process from impurities flowed out from the substrate **100**, such as alkali ion, etc., wherein it may be selectively formed using silicon oxide SiO2, silicon nitride SiNx, etc.

A first and a second semiconductor layers **110***a* and **110***b* are positioned on the buffer layer **105**. The first and the second semiconductor layers may comprise amorphous silicon. Also, after forming an amorphous silicon layer on the buffer layer **105**, the first and the second semiconductor layers **110***a* and **110***b* may crystallize it by using methods of excimer laser annealing (ELA), sequential lateral solidification (SLS), metal induced crystallization (MIC) and metal induced lateral crystallization (MILC) and make it a patterned polycrystalline silicon layer. And, although not shown, the first and the second semiconductor layers **110***a* and **110***b* may comprise a source region, a drain region and a channel region.

A first insulating layer **115**, which is a gate insulating layer, is positioned to cover the first and the second semiconductor layers **110***a* and **110***b*. The first insulating layer **115**, which is an insulating layer, may be formed of a silicon oxide film, a silicon nitride film or a double layer thereof.

A first and a second gate electrodes **120***a* and **120***b* are positioned on the first insulating layer **115** to correspond to predetermined regions of the first and the second semiconductor layers **110***a* and **110***b*. The first and the second gate electrodes **120***a* and **120***b* may comprise aluminum (AL), aluminum alloy (AL alloy), molybdenum (Mo), molybdenum alloy (Mo ally), etc. At this time, although not shown in FIG. **3**, the scan line **101** is positioned on the same layer as the first and the second gate electrodes **120***a* and **102***b*.

A second insulating layer **125** is positioned on the first and the second gate electrodes **120***a* and **120***b*, wherein the second insulating layer **125** is an inter-insulating layer. The second insulating layer **125**, which is to insulate the first and the second gate electrodes **120***a* and **120***b*, and subsequently formed metal lines, such as a source electrode and a drain electrode. The second insulating layer **125** may be configured of a double layer.

A first to a fourth contact holes **130***a*, **130***b*, **130***c* and **130***d* are positioned in the second insulating layer **125** and the first insulating layer **115**, wherein the first to the fourth contact holes **130***a*, **130***b*, **130***c* and **130***d* expose portions of the first and the second semiconductor layers **110***a* and **110***b*.

A first source electrode and a first drain source electrode **140***a* and **140***b*, and a second source electrode and a second drain electrode **140***c* and **140***d*, are positioned on the second insulating layer **125**, wherein the first source electrode and the first drain source electrode **140***a* and **140***b*, and the second source electrode and the second drain electrode **140***c* and **140***d* are electrically connected to the first and the second semiconductor layers **110***a* and **110***b*, respectively, through the first to the fourth contact holes **130***a*, **130***b*, **130***c* and **130***d*. And, a first storage electrode **140***e* of the capacitor Cst is positioned on the same layer as the first and the second source electrodes and the drain electrode **140***a*, **140***b*, **140***c*, and **140***d*.

The first and the second source electrode and drain electrode **140***a*, **140***b*, **140***c* and **140***d*, and the first storage electrode **140***e* may be formed on the same layer by performing the same process, and may comprise molybdenum (Mo), tungsten (W), molybdenum tungsten (MoW) and aluminum (AL), etc. And, the first storage electrode **140***e* may electrically be connected to the second source electrode **140***c* and the power line **103** of the driving transistor T**2**. Here, although not shown, the data line **102** may also be formed on the same plane.

A third insulating layer **145** is positioned on the substrate comprising the first and the second source electrode and drain electrode **140***a*, **140***b*, **140***c* and **140***d*, and the first storage electrode **104***e*, wherein the third insulating layer **145** is a passivation layer. The third insulating layer **145** may be formed of organic materials such as polyimide, benzocyclobutene series resin and acrylate. The third insulating layer **145** protects elements on the lower thereof and at the same time, remove a height difference generated due to the elements on the lower, making the substrate flat.

A first via hole **150***a* and a second via hole **150***b* are positioned in the third insulating layer **145**, wherein the first via hole **150***a* exposes a part of the first drain electrode **140***b* of the switching transistor T**1** and the second via hole **150***b* exposes a part of the second drain electrode **140***d* of the driving transistor T**2**.

And, a second storage electrode **155***a* of the capacitor and a first electrode **155***b* of the light emitting diode OLED are positioned on the third insulating layer **145**, wherein the second storage electrode **155***a* is electrically connected to the first drain electrode **140***b* through the first via hole **150***a*, and the first electrode **155***b* is electrically connected to the second drain electrode **140***d* through the second via hole **150***b*. Here, the second storage electrode **155***a* may be positioned to correspond to the first storage electrode **140***e*.

The second storage electrode **155***a* and the first electrode **155***b* may be formed of the same material through the same process. When the first electrode **155***b* is an anode, the second storage electrode **155***a* and the first electrode **155***b* may comprise transparent conductive material with a high work function, such as indium tin oxide. And, when an organic light emitting display according to the first embodiment of the present invention is a top-emission type, the first electrode **155***b* may comprise a metal layer formed of aluminum etc or silver and a transparent conductive layer. For example, the first electrode **155***b* may be a multi-layer structure of ITO/Ag/ITO, Ag/ITO, ITO/AlNd/ITO, AlNd/ITO, etc. To the contrary, when an organic light emitting display according to the first embodiment of the present invention is an inverted type, the first electrode **155***b* may comprise a metal layer formed of aluminum, magnesium or silver, etc.

And, the second storage electrode **155***a* is electrically connected to the drain electrode **140***b* of the switching transistor T**1**. At the same time, although not shown, the second storage electrode **155***a* may be connected to the gate electrode **120***b* of the driving transistor T**2**. Therefore, the capacitor Cst stores signals by the difference between the data signal applied from the switching transistor T**1** and the signal applied from the power line **103** by means of the two storage electrodes.

A fourth insulating layer **160** is positioned on the second storage electrode **155***a* and the first electrode **155***b*, wherein the fourth insulating layer **160** comprises an opening **165** which exposes a portion of the first electrode **155***b*. An emission layer **175** is positioned on the first electrode **155** exposed by the opening **165**. The emission layer **175** may comprise organic materials, and is supplied with holes and electrons to re-couple them and to form excitons, thereby emitting light. And, although not shown, a hole injecting layer and/or a hole transporting layer may be positioned between the first electrode **155***b* and the emission layer **175**, and an electron transporting layer and/or an electron injecting layer may be positioned on the emission layer **175**.

A second electrode **180** is positioned on the substrate comprising the emission layer **175**. The second electrode **180** may be a cathode providing an electron to the emission layer **175**, and be formed of metal with a low work function, such as magnesium, silver and aluminum. Also, in the case where an organic light emitting display is a top-emission type, the organic light emitting display comprises indium tin oxide or is formed in a thin thickness so that it may be formed in a transflective electrode.

As described above, the organic light emitting display according to the first embodiment of the present invention forms the first storage electrode of the capacitor on the same layer as the source electrode and the drain electrode, and forms the second storage electrode thereof on the same layer as the first electrode.

Since the second storage electrode is formed after all the transistors are formed, a margin in process can be reduced, making it possible to sufficiently secure the area of the storage electrode. Therefore an area of the capacitor is substantially 5 to 80 percent of an area of a sub-pixel comprising the capacitor. It may improve the performance of capacitor.

And, in the case where an organic light emitting display is a bottom-emission type, the second storage electrode is formed on the same layer as the first electrode, having an effect that the aperture ratio is not reduced although the size of the second storage electrode is increased.

Second Embodiment

An organic light emitting display according to a second embodiment of the present invention has the same constitution with that of the organic light emitting display according to the first embodiment of the present invention, except the material for forming a second storage electrode.

In other words, in an organic light emitting display according to the second embodiment of the present invention, a first semiconductor layer **210**_a_, a first insulating layer **215**, a first gate electrode **220**_a_, a second insulating layer **225** and a switching transistor T**1** comprising a first source electrode and a first drain electrode **240**_a_ and **140**_b_ electrically connected to the first semiconductor layer **210**_a_ through a first and a second contact holes **230**_a_ and **230**_b_ are positioned on a substrate **200** comprising a buffer layer **205**.

Also, a second semiconductor layer **210**_b_, the first insulating layer **215**, a second gate electrode **220**_b_, the second insulating layer **225**, a driving transistor T**2** comprising a second source electrode and a second drain electrode **240**_c_ and **240**_d_ electrically connected to the second semiconductor layer **210**_b_ through a third and a fourth contact holes **230**_c_ and **230**_d_ are positioned on the substrate **200**.

Here, a first storage electrode **240**_e_ of the capacitor Cst is positioned on the same layer as the second source electrode **240**_c_ in order to be connected to the second source electrode **240**_c_ and the power line of the driving transistor T**2**.

A third insulating layer **245** is positioned on the substrate comprising the first and the second source electrodes and drain electrodes **240**_a_, **240**_b_, **240**_c_ and **204**_d_, and the first storage electrode **240**_e_, and a second storage electrode **255**_a_ of the capacitor and a first electrode **255**_b_ of the light emitting diode OLED are positioned on the third insulating layer **245**, wherein the second storage electrode **255**_a_ is electrically connected to the first drain electrode **240**_b_ through a first via hole **250**_a_, and the first electrode **255**_b_ is electrically connected to the second drain electrode **240**_d_ through a second via hole **250**_b_. Here, the second storage electrode **255**_a_ may be positioned to correspond to the first storage electrode **240**_e_.

In the second embodiment of the present invention, the second storage electrode **255**_a_ and the first electrode **255**_b_ may be formed of different materials from each other. In other words, when the first electrode **255**_b_ is an anode, the first electrode **255**_b_ may comprise transparent conductive material with a high work function, such as indium tin oxide. And, the second storage electrode **255**_a_ may be formed of metal material having high conductivity, for example, molybdenum, aluminum, silver, copper, tungsten, chrome, etc.

Therefore, after forming a metal material layer on the third insulating layer **245**, the second storage electrode **255**_a_ is formed by patterning it. Then, after forming again a transparent conductive material layer, the first electrode **255**_b_ may be formed by patterning it.

A fourth insulating layer **260** comprising an opening **265** is positioned on the second storage electrode **255**_a_ and the first electrode **255**_b_, and an emission layer **275** is positioned in the opening **265**. And, a second electrode **280** is positioned on the emission layer **275**.

As described above, the organic light emitting display according to the second embodiment of the present invention forms the first storage electrode of the capacitor on the same layer as the source electrode and the drain electrodes, and forms the second storage electrode on the same layer as the first electrode.

Therefore, since the second storage electrode is formed after all the transistors are formed, a margin of process can be reduced, making it possible to sufficiently secure the area of the second storage electrode. Also, in the second embodiment of the present invention, the second storage electrode is formed of metal having high conductivity, making it possible to improve the performance of the capacitor.

Third Embodiment

An organic light emitting display according to a third embodiment of the present invention has the same constitution with that of the organic light emitting display according to the first embodiment of the present invention, except the positions of a first storage electrode and a second storage electrode.

In other words, in an organic light emitting display according to the third embodiment of the present invention, a first and a second semiconductor layers **310**_a_ and **310**_b_, a first insulating layer **315**, and a first and a second gate electrodes **320**_a_ and **320**_b_ are positioned on a substrate **300** thereof comprising a buffer layer **305**.

And, a second insulating layer **325**_a_ is positioned on the first and the second gate electrodes **320**_a_ and **320**_b_, and a first storage electrode **327** is positioned on the second insulating layer **325**_a_.

Here, the first storage electrode **327** may be formed of conductive material, and a third insulating layer **325**_b_ comprising a first via hole **328** is positioned on the first storage electrode **327**, wherein the first via hole **328** exposes a portion of the first storage electrode **327**.

And, a first to fourth contact holes **330**_a_, **330**_b_, **330**_c_ and **330**_d_ are positioned in the first, the second and the third insulating layers **315**, **325**_a_ and **325**_b_, wherein the first to fourth contact holes **330**_a_, **330**_b_, **330**_c_ and **330**_d_ expose portions of the first and the second semiconductor layers **310**_a_ and **310**_b_, respectively.

A first source electrode and a first drain electrode **340**_a_ and **340**_b_ are positioned on the third insulating layer **325**_b_, wherein the first source electrode and the first drain electrode **340**_a_ and **340**_b_ are electrically connected to the first semiconductor layer **310**_a_ and **310**_b_. At this time, the first drain electrode **340**_b_ may be connected to the first storage electrode **327** through the first via hole **328**. And, although not shown, the first storage electrode **327** is electrically connected to the second gate electrode **310**_b_.

And, a second source electrode and a second drain electrode **340**_c_ and **340**_d_ are positioned on the third insulating layer **325**_b_, wherein the second source electrode and the drain electrode **340**_c_ and **340**_d_ are electrically connected to the second semiconductor layer **310**_b_. Also, a second storage electrode **340**_e_ of the capacitor Cst is positioned on the third insulating layer **325***b* in order to be connected to the second source electrode **340***c* and the power line **303** of the driving transistor T**2**.

Here, the second storage electrode **340***e* of the capacitor Cst is positioned to correspond to the first storage electrode **327** thereof. And, the second storage electrode may be formed of same material with the first and the second source electrodes and drain electrodes **340***a*, **340***b*, **340***c* and **340***d*.

A fourth insulating layer **345** is positioned on the substrate comprising the first and the second source electrodes and drain electrodes **340***a*, **340***b*, **340***c* and **340***d*, and the second storage electrode **340***e*, and a first storage electrode **355***b* of the light emitting diode OLED is positioned on the fourth insulating layer **345**, wherein the first storage electrode **355***b* is electrically connected to the second drain electrode **340***d* through a second via hole **350**. The fifth insulating layer **360** comprising an opening **365** is positioned on the first electrode **355***b*, and an emission layer **375** is positioned in the opening **365**. And, a second storage electrode **380** is positioned on the emission layer **375**.

As described above, the organic light emitting display according to the third embodiment of the present invention forms the first storage electrode **327** of the capacitor between the second insulating layer **325***a* and the third insulating layer **325***b*. Therefore, the constituents of the transistor are not formed on the same layer as the first storage electrode, making it possible to sufficiently secure the area of the first storage electrode. In other words, the capacity of the capacitor can be more improved by widening the area of the electrode of the capacitor.

Although a few embodiments of the present invention have been shown and described with reference to the pixel circuit comprising two transistors and one capacitor, the present invention may be applied to a pixel circuit comprising a number of transistors and capacitors.

And, the first storage electrode or the second storage electrode may be formed of transparent conductive material or opaque metal material according to an emission direction of the organic light emitting display.

What is claimed is:

1. An organic light emitting display comprising:

a substrate;

thin film transistors positioned on the substrate and comprising a source electrode and a drain electrode;

an organic light emitting diode comprising a first electrode connected to the source electrode or the drain electrode of one of the thin film transistors, an emission layer positioned on the first electrode and a second electrode positioned on the emission layer; and

a capacitor comprising a first storage electrode positioned on the same layer as the source electrode and the drain electrode, a second storage electrode positioned on the same layer as the first electrode, and an insulating layer positioned between the two storage electrodes.

2. The organic light emitting display of claim **1**, wherein the source electrode and the drain electrode and the first storage electrode comprise the same material.

3. The organic light emitting display of claim **1**, wherein the first electrode and the second storage electrode comprise the same material.

4. The organic light emitting display of claim **3**, wherein the first electrode and the second storage electrode comprise a transparent conductive layer.

5. The organic light emitting display of claim **1**, wherein the first electrode and the second storage electrode comprise different materials.

6. The organic light emitting display of claim **5**, wherein the first electrode comprises transparent conductive material, and the second storage electrode comprises a metal.

7. The organic light emitting display of claim **1**, wherein the first storage electrode or the second storage electrode comprises transparent conductive material.

8. The organic light emitting display of claim **1**, wherein the first storage electrode is electrically connected to the source electrode of one of the transistors, and the second storage electrode is electrically connected to the gate electrode of the transistor.

9. The organic light emitting display of claim **1**, wherein the transistors comprise a switching transistor and a driving transistor, the first storage electrode is electrically connected to the source electrode of the driving transistor, and the second storage electrode is electrically connected to the drain electrode of the switching transistor and the gate electrode of the driving transistor.

10. The organic light emitting display of claim **1**, wherein an area of the capacitor is 5 to 80 percent of an area of a sub-pixel comprising the capacitor.

11. An organic light emitting display comprising:

a substrate;

thin film transistors positioned on the substrate and comprising a gate electrode, a source electrode and a drain electrode and at least two insulating layers positioned between the gate electrode and the source and drain electrode; and

a capacitor comprising a first storage electrode positioned between the insulating layers, and a second storage electrode positioned on the same layer as source electrode and the drain electrode.

12. The organic light emitting display of claim **11**, wherein the source electrode and the drain electrode and the second storage electrode comprise the same material.

13. The organic light emitting display of claim **11**, wherein the first storage electrode or the second storage electrode comprises transparent conductive material.

14. The organic light emitting display of claim **11**, wherein the first storage electrode is electrically connected to the gate electrode of one of the transistors, and the second storage electrode is electrically connected to the source electrode of the transistor.

15. The organic light emitting display of claim **11**, wherein the transistors comprise a switching transistor and a driving transistor, the first storage electrode is electrically connected to the drain electrode of the switching transistor and the gate electrode of the driving transistor, and the second storage electrode is electrically connected to the source electrode of the driving transistor.

16. The organic light emitting display of claim **11** comprising: an organic light emitting diode comprising a first electrode connected to the source electrode or the drain electrode of one of the thin film transistors, an emission layer positioned on the first electrode and a second electrode positioned on the emission layer.

17. The organic light emitting display of claim **11**, wherein the thin film transistor comprising a semiconductor layer positioned under the gate electrode and a gate insulating layer positioned between the semiconductor layer and the gate electrode.

18. The organic light emitting display of claim **11**, wherein an area of the capacitor is 5 to 80 percent of an area of a sub-pixel comprising the capacitor.

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专利名称(译)	有机发光显示器		
公开(公告)号	US7795804	公开(公告)日	2010-09-14
申请号	US11/642851	申请日	2006-12-21
申请(专利权)人(译)	LG电子株式会社.		
当前申请(专利权)人(译)	LG DISPLAY CO. , LTD.		
[标]发明人	KIM CHANGNAM		
发明人	KIM, CHANGNAM		
IPC分类号	H05B33/00		
CPC分类号	H01L27/3265		
代理机构(译)	摩根路易斯律师事务所		
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摘要(译)

本发明提供一种有机发光显示器，包括：基板;薄膜晶体管，位于基板上，包括源电极和漏电极;有机发光二极管，包括连接到一个薄膜晶体管的源电极和漏电极的第一电极，位于第一电极上的发光层和位于发光层上的第二电极;电容器包括：第一存储电极，位于与源电极和漏电极相同的层上;第二存储电极，位于与第一电极相同的层上;绝缘层，位于两个存储电极之间。