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(54) HYGROSCOPIC PASSIVATION STRUCTURE OF AN ORGANIC ELECTROLUMINESCENT DISPLAY

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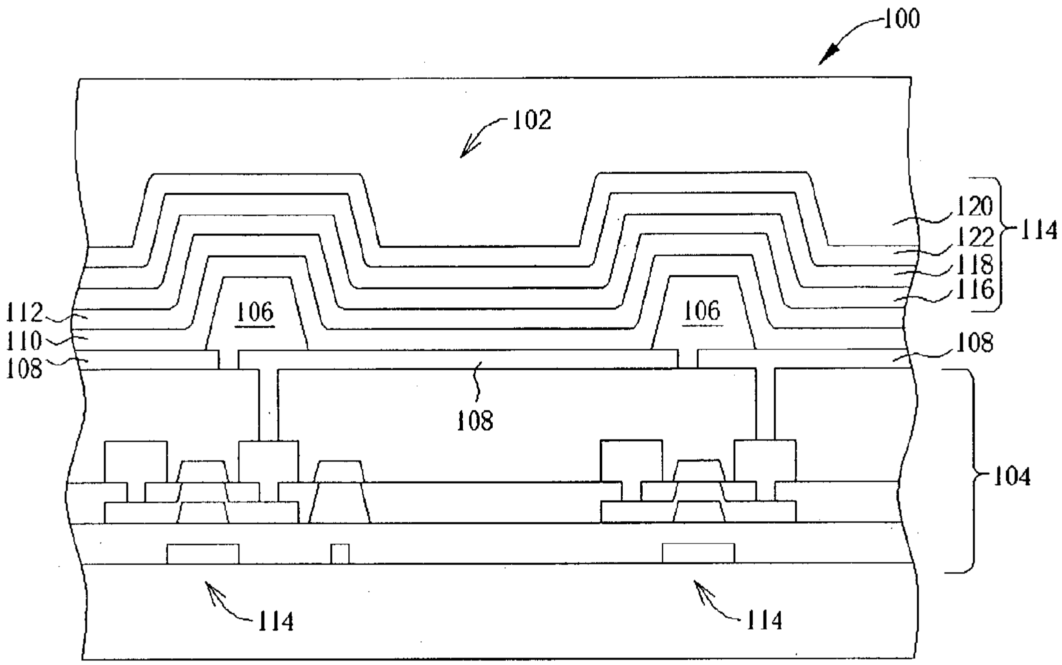
(57) **ABSTRACT**

A hygroscopic passivation structure covering a display region of an organic electroluminescent display (OELD) includes at least one buffer layer, a hygroscopic material layer, and a passivation layer. The hygroscopic material is used to adsorb moisture that is generated internally from the OELD and is penetrated through the outer passivation layer.



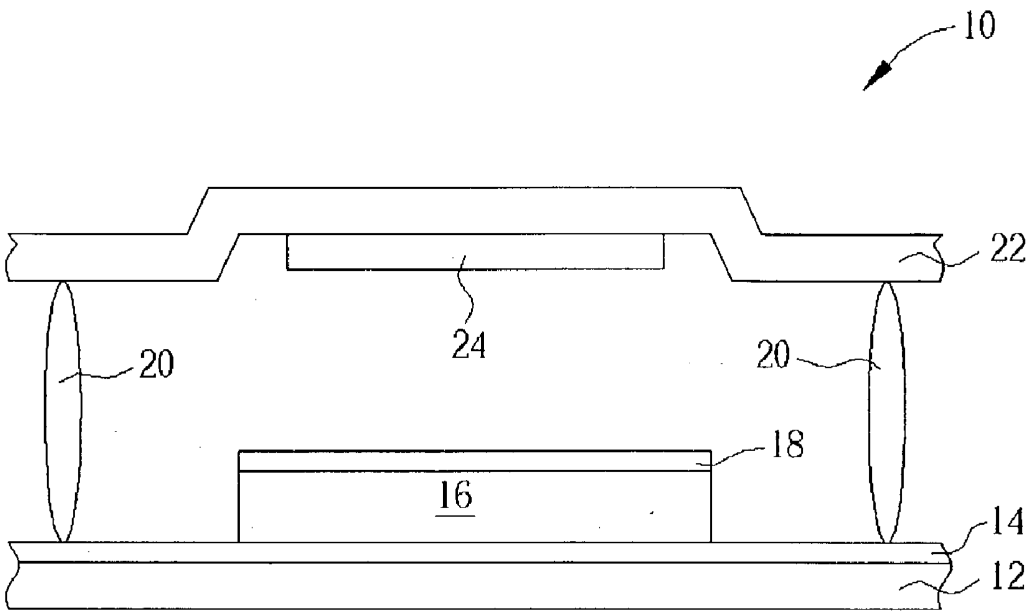


Fig. 1 Prior art

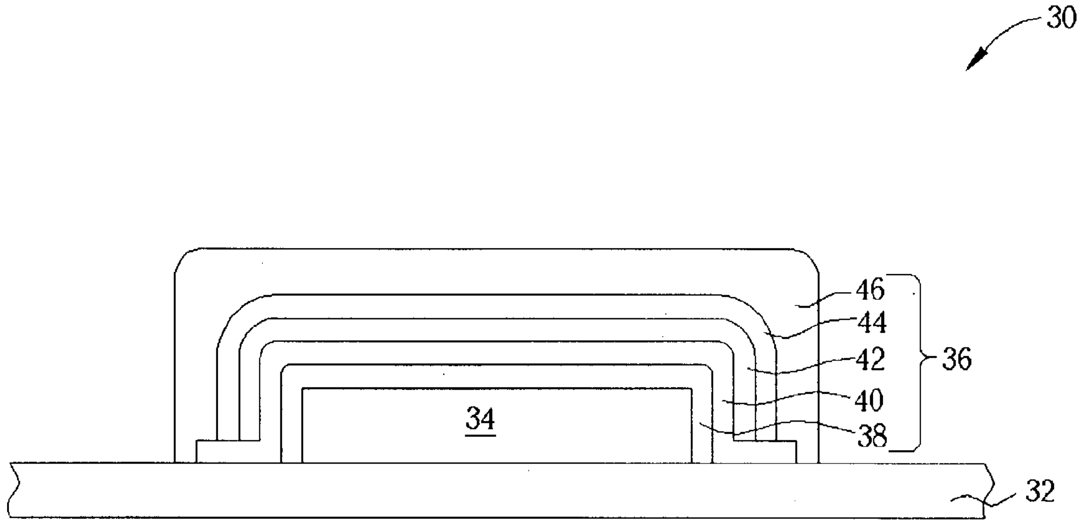


Fig. 2 Prior art

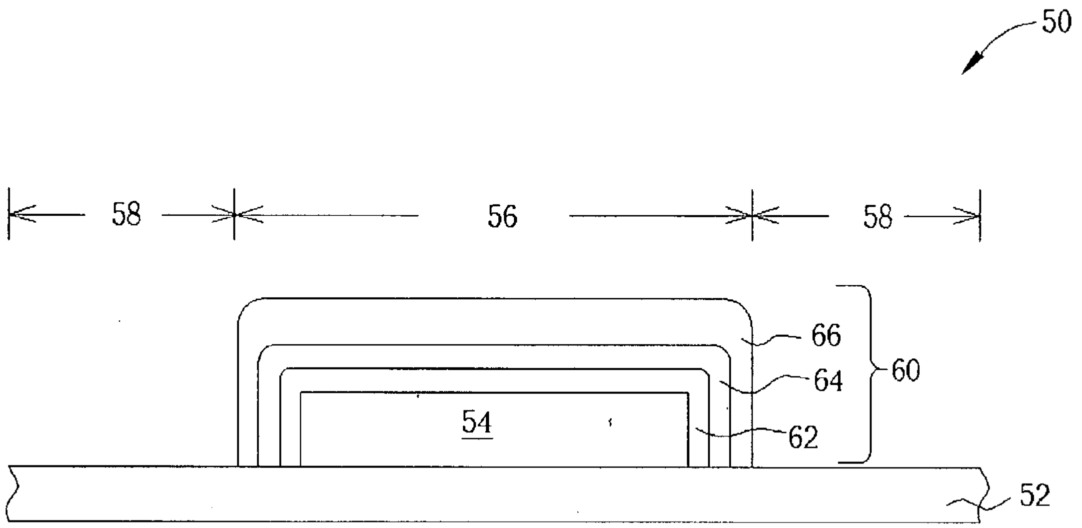


Fig. 3

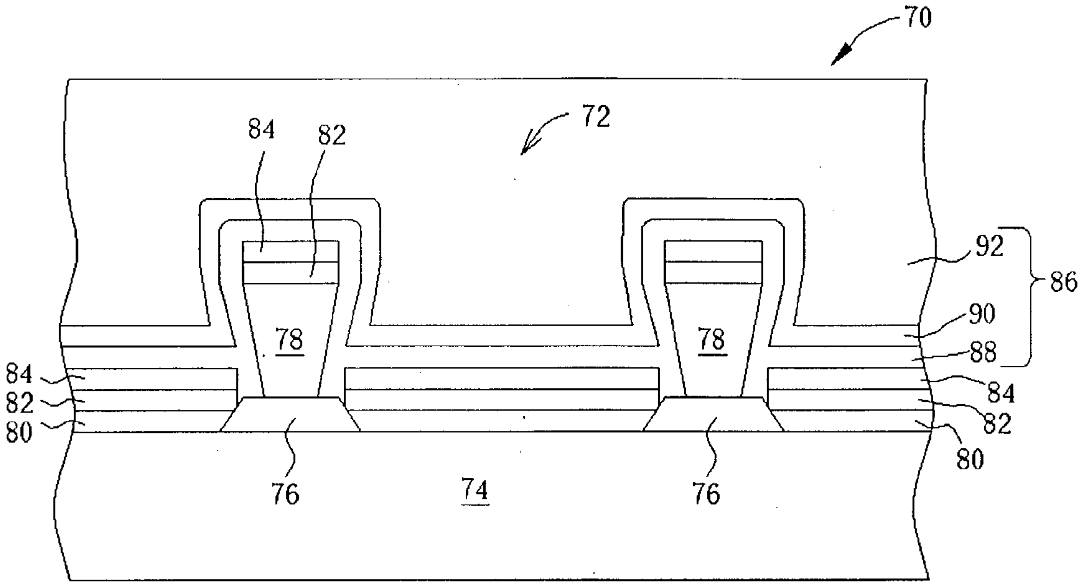


Fig. 4

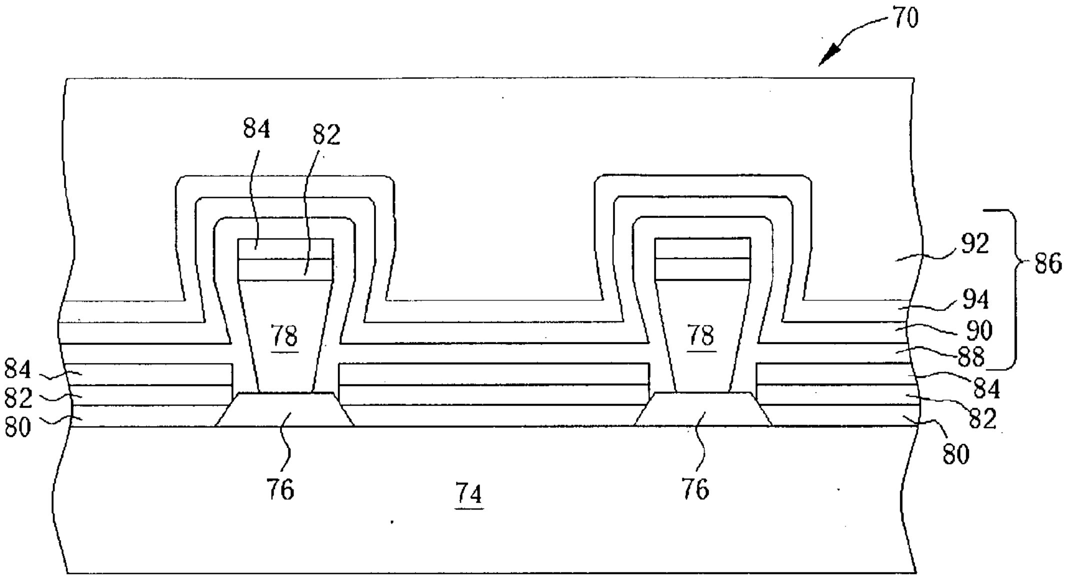


Fig. 5

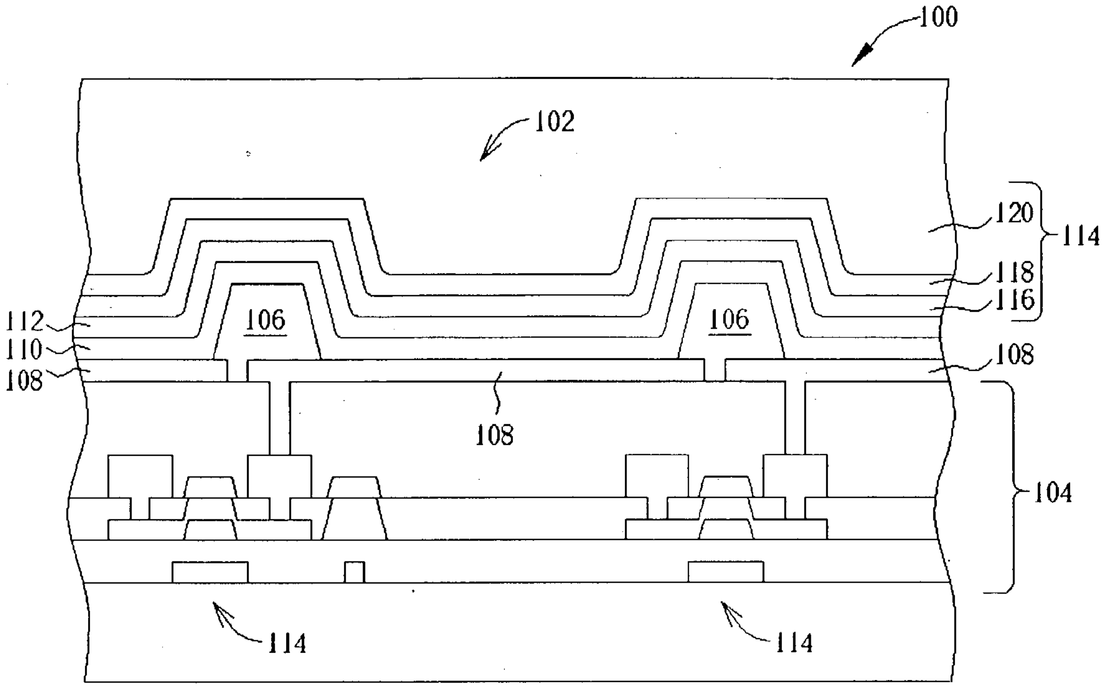


Fig. 6

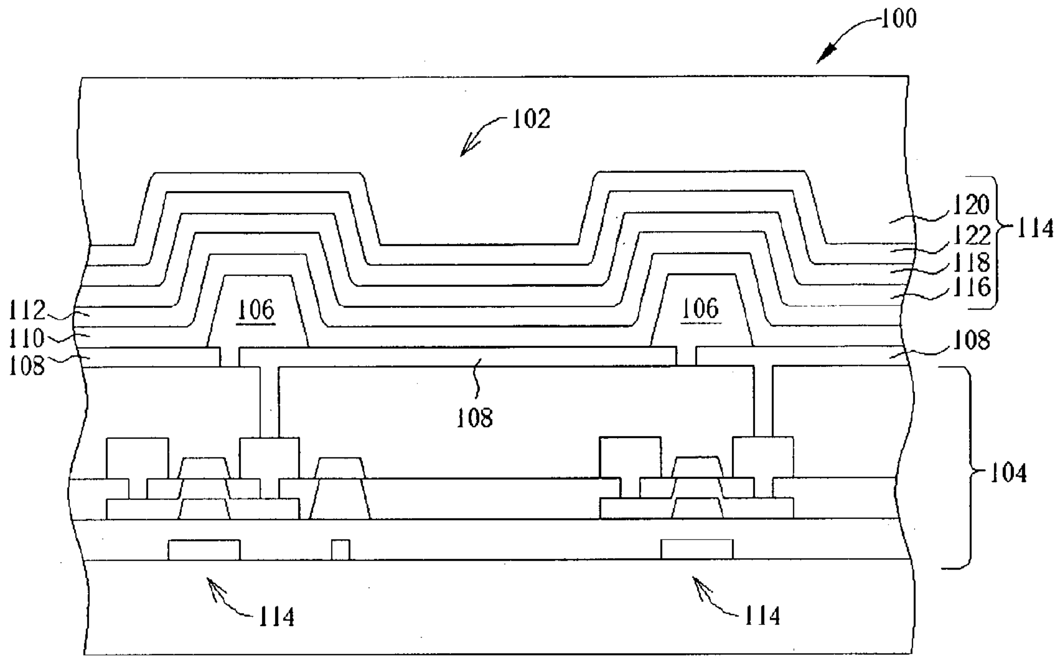


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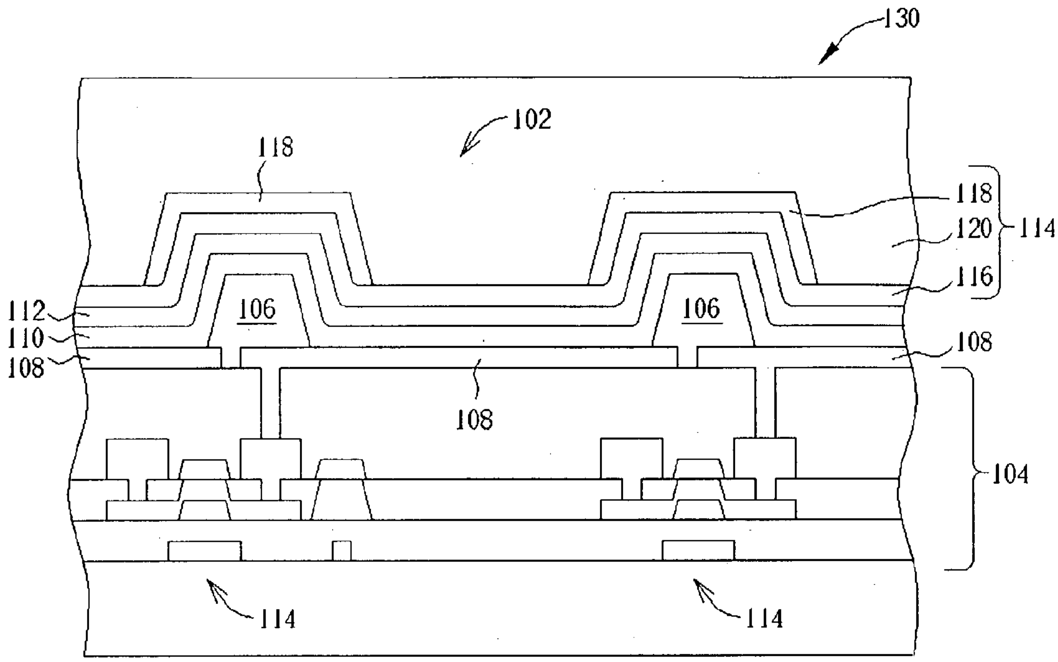
Fig. 7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114

Fig. 8

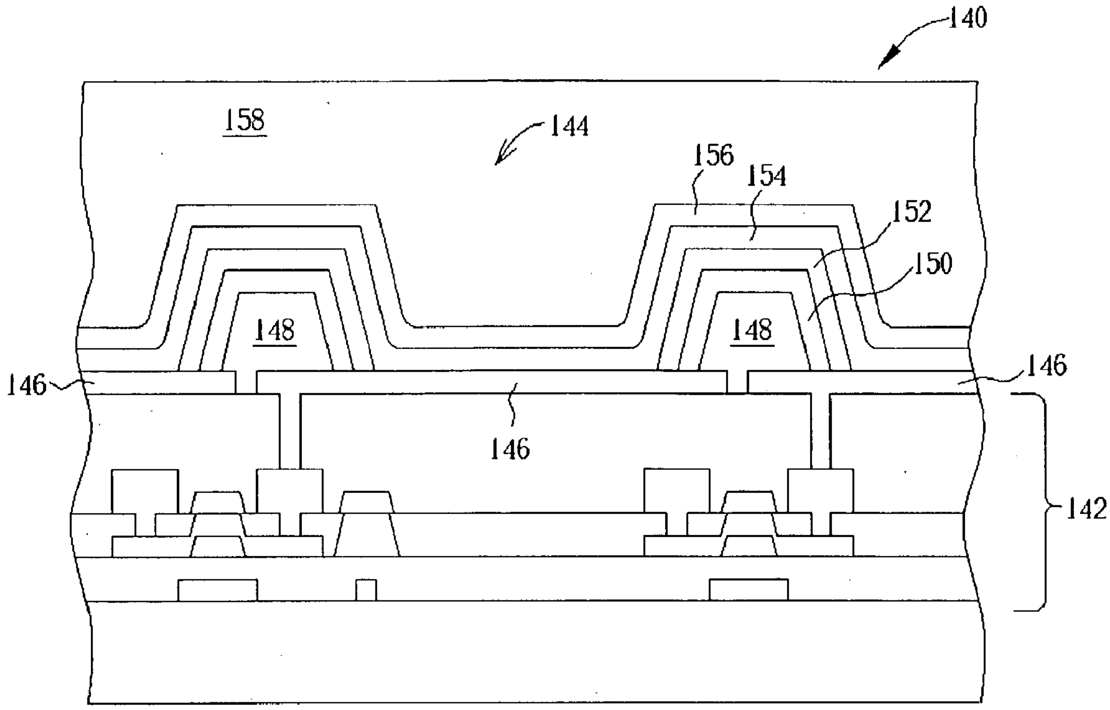

Fig. 9

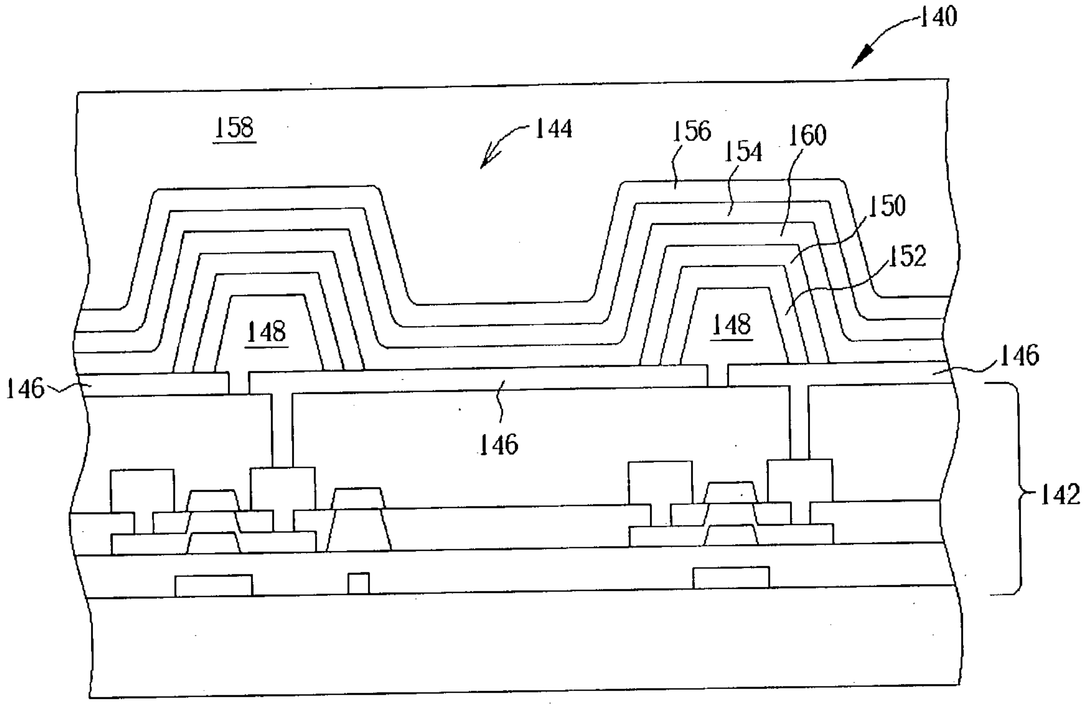

Fig. 10

HYGROSCOPIC PASSIVATION STRUCTURE OF AN ORGANIC ELECTROLUMINESCENT DISPLAY

BACKGROUND OF INVENTION

[0001] 1. Field of the Invention

[0002] The present invention relates to a passivation structure of an organic light emitting device, and more particularly, to a hygroscopic passivation structure of an active matrix type organic electroluminescent display (AM-OELD) and a passive matrix type organic electroluminescent display (PM-OELD).

[0003] 2. Description of the Prior Art

[0004] In various types of flat panel displays, since an OELD has many beneficial characteristics, such as having a spontaneous light source, a wide viewing angle, high-response velocity, full-color, simpler structure, a wide operating temperature, and power savings, the OELD has been used extensively in small and medium scale portable display fields.

[0005] Please refer to **FIG. 1**, which is a cross-sectional view illustrating a conventional OELD **10**. As shown in **FIG. 1**, the conventional OELD **10** mainly includes a substrate **12**, a transparent conductive layer **14** positioned on the substrate **12**, an organic layer **16** positioned on a predetermined region of the transparent conductive layer **14**, and a metal layer **18** positioned on the organic layer **16**. The transparent conductive layer **14** is used as an anode of the OELD **10**, and the metal layer **18** is used as a cathode of the OELD **10**. The organic layer **16** and the metal layer **18** of the OELD **10** are very sensitive to moisture and oxygen gas. As soon as the organic layer **16** and the metal layer **18** are in contact with moisture and oxygen gas, the organic layer **16** could peel off the transparent conductive layer **14** and the metal layer **18**, the metal layer **18** could be oxidized, and dark spots could be generated in the OELD **10**, reducing display quality, lowering glow of the OELD **10**, and decreasing life of the OELD **10**. Therefore, a passivation and encapsulation material of the OELD **10** must have characteristics of perfect anti-abrasiveness, high thermal conductivity, and lower moisture permeability, to prevent the organic layer **16** and the metal layer **18** from contacting with the outside environment efficiently, and to increase the life of the OELD **10**.

[0006] Please refer to **FIG. 1** again, an encapsulation process of the conventional OELD **10** utilizes a sealing material **20**, such as a binder composed of high polymer glue materials, to bind a container **22** made of glass or metal on the substrate **12**. Then, dry nitrogen gas is injected into a hollow part between the container **22** and the substrate **12** to prevent moisture from penetrating into the OELD **10**. However, an internal part of the OELD **10** still contains a small amount of moisture adhering on a surface of the substrate **12** or the container **22** after the encapsulation process is performed. Once the OELD **10** is in a high temperature state of about 100° C., the moisture adhering on the substrate **12** and the container **22** will release into the internal part of the OELD **10** to generate the dark spots in the OELD **10**. In order to solve this problem, a desiccating agent **24**, such as barium oxide (BaO **2**) or calcium oxide (CaO **2**), can be positioned in the OELD **10** and used as a hygroscopic agent to adsorb the moisture to sustain the internal part of the OELD **10** to be in a dry state.

[0007] However, the above-mentioned container cannot be applied in a flexible OELD. The metal container has disadvantages of having heavy weight, being oxidized easily, and peeling off the glass easily, and the glass container has disadvantages of inconvenient extra working, cracking easily, having large size, and having heavy weight. Additionally, the conventional binder composed of high polymer glue materials does not have enough protection ability about moisture, and the moisture could penetrate from the outside environment through the binder and into the OELD after completing the encapsulation process, leading to erosion of the display device, affecting the display quality, and reducing the life of the display. Furthermore, the conventional encapsulation process cannot be performed in a vacuum state, so that the internal part of the OELD easily retains more moisture and other gas.

[0008] In order to solve the above-mentioned problems of the metal or glass container, a new passivation process that utilizes films to encapsulate the OELD is disclosed in U.S. Pat. No. 5,811,177. Please refer to **FIG. 2**, which is a cross-sectional view illustrating another conventional OELD **30**. As shown in **FIG. 2**, the conventional OELD **30** mainly includes a substrate **32**, a display device **34** positioned on the substrate **32**, and a passivation structure **36** covering the display region **34** and the substrate **32**. The display device **34** is composed of a plurality of display units (not shown in **FIG. 2**), and each display unit includes a transparent conductive layer, an organic layer, and a metal layer positioned on the substrate **32**, respectively. The passivation structure **36** is a multi-level film structure, and includes a metal layer **38**, a buffer layer **40**, a thermal coefficient matching layer **42**, a low permeability layer **44**, and a sealing layer **46** covering the display device **34**, respectively, to protect the display device **34**.

[0009] Briefly, the conventional passivation structure **36** utilizes ceramic materials, metal materials, and high polymer materials as passivation films to prevent the moisture and oxygen gas from penetrating from the outside environment into the display device **34**. However, if the OELD **30** is operating in a high temperature environment for a long time, even though the passivation films are utmost without pin holes in the passivation films, a small amount of moisture will be generated from internal devices of the OELD, such as the substrate **32**, the organic layer or other materials. The moisture cannot be eliminated, leading to an inferior quality and reducing life of the OELD **30**.

[0010] Therefore, another moisture-proof multi-layer structure is disclosed in Chinese Taipei Patent 379,531 to improve the above-mentioned problem. The structure includes a moisture-adsorbing resin layer, an adhesive layer, and a transparent resin layer and covers an electroluminescent element (EL) to prevent the EL from moistening and oxidizing. The moisture-adsorbing resin layer is composed of intrinsic moisture-adsorbing resin materials, such as polyvinyl alcohol (PVA), polyvinyl ester saponification agents, or moisture-adsorbing resin materials composed of non-moisture adsorbing resin and hydroscopic chemical compounds. Furthermore, the moisture-adsorbing resin layer has to be dried to reduce the hydrous quality before using the moisture-adsorbing resin layer in the structure of the EL. Since the moisture-adsorbing resin is a physical adsorption material, the moisture adsorbed in the moisture-adsorbing resin will be released easily into an internal part of the EL if the moisture-adsorbing resin is heated. Therefore, the moisture-proof multi-layer structure is only suitable for using in an inorganic EL or a low-level organic EL, but not in high-level organic EL.

SUMMARY OF INVENTION

[0011] It is therefore a primary objective of the claimed invention to provide a hygroscopic passivation film suitable for use in a high-level active matrix type and a passive matrix type organic light emitting device.

[0012] It is another object of the claimed invention to provide a hygroscopic passivation structure applied in a top emission type organic electroluminescent display.

[0013] According to the preferred embodiment of the claimed invention, a hygroscopic passivation structure of an organic electroluminescent display (OELD) covers a display region of the OELD, and comprises a buffer layer positioned on the display region, a hygroscopic material layer positioned on the buffer layer, and a passivation layer positioned on the hygroscopic material layer.

[0014] Since the hygroscopic material layer of the claimed invention can trap moisture penetrated through the outer passivation layer and small amounts of moisture generated internally from the OELD by chemical adsorption. Therefore, the organic layer and the electrode materials of the OELD are not destroyed by the moisture. In addition, the moisture trapped in the hygroscopic material layer is not only stored in the hygroscopic material layer, but a hydroxide chemical compound is generated when the hygroscopic material reacts to the moisture. Consequently, the moisture trapped in the hygroscopic material layer is not released when the OELD is in a high-temperature state, so as to increase the life of the OELD.

[0015] These and other objectives of the claimed invention will no doubt become obvious to those of ordinary skill in the art after reading the following detailed description of the preferred embodiment that is illustrated in the various figures and drawings.

BRIEF DESCRIPTION OF DRAWINGS

[0016] **FIG. 1** is a cross-sectional view illustrating a conventional OELD.

[0017] **FIG. 2** is a cross-sectional view illustrating another conventional OELD.

[0018] **FIG. 3** is a cross-sectional view illustrating a hygroscopic passivation structure of an OLED according to the present invention.

[0019] **FIG. 4** to **FIG. 10** are local amplified diagrams of the hygroscopic passivation structure of the OLED shown in **FIG. 3**.

DETAILED DESCRIPTION

[0020] In the preferred embodiment of the present invention, an organic light emitting diode (OLED) is utilized as an example. However, the present invention is not limited to this. A hygroscopic passivation structure of the present invention can be applied in various organic light emitting devices, such as a polymer light emitting diode (PLED). Please refer to **FIG. 3** to **FIG. 10**. **FIG. 3** is a cross-sectional view illustrating a hygroscopic passivation structure **60** of an OLED **50** according to the present invention. **FIG. 4** to **FIG. 10** are local amplified diagram of the hygroscopic passivation structure **60** of the OLED **50** shown in **FIG. 3**. Specifically, **FIG. 4** and **FIG. 5** are cross-sectional views illustrating a passive matrix type OLED (PM-OLED) **70** according to the present invention. **FIG. 6** and **FIG. 7** are cross-sectional views illustrating an active matrix type OLED (AM-OLED) **100** according to the present invention. **FIG. 8** is a cross-sectional view illustrating a top emission type OLED (TM-OLED) **130** according to the present invention.

[0021] As shown in **FIG. 3**, the OLED **50** mainly includes a substrate **52**, a display device **54** positioned on the substrate **52** to define a display region **56** and a peripheral region **58**, and a hygroscopic passivation structure **60** covering the display region **56** of the OLED **50**. Specifically, the hygroscopic passivation structure **60** mainly includes a buffer layer **62** positioned on the display unit **54**, a hygroscopic material layer **64** positioned on the buffer layer **62**, and a passivation layer **66** positioned on the hygroscopic material layer **64** to prevent the display region **54** from being in contact with outside environment.

[0022] The hygroscopic passivation structure **60** of the present invention can be applied in various passive type light emitting devices. As shown in **FIG. 4**, when the display device **54** of the OLED **50** is composed of a plurality of passive matrix type display units **72**, the OLED **50** is called a passive matrix type OLED (PM-OLED) **70**. The PM-OLED **70** is formed on a substrate **74**, and the display units **72** are separated by a plurality of insulating layers **76** and a plurality of ribs **78**. Each display unit **72** includes a transparent conductive layer **80** functioning as an anode of the PM-OLED **70** positioned on the substrate **74**, an organic layer **82** positioned on the transparent conductive layer **80** and the ribs **78**, and a metal layer **84** functioning as a cathode of the PM-OLED positioned on the organic layer **82**. Typically, the substrate **74** can be a glass substrate, a plastic substrate, or a metal substrate. The insulating layer **76** and the ribs **78** can be both composed of polymer or inorganic materials. The transparent conductive layer **80** can be composed of indium tin oxide (ITO) or indium zinc oxide (IZO). The metal layer **84** can be composed of magnesium (Mg), aluminum (Al), lithium (Li), or an alloy of Mg, Al, and Li. Additionally, the organic layer **82** further includes a hole transport layer (HTL, not shown in **FIG. 4**) positioned on the transparent conductive layer **80**, an emitting layer(EML, not shown in **FIG. 4**) positioned on the HTL, and an electron transport layer (ETL, not shown in **FIG. 4**) positioned on the EML.

[0023] Furthermore, the PM-OLED **70** includes a hygroscopic passivation structure **86** covering the display units **72**. The hydroscopic passivation structure **86** mainly includes a buffer layer **88** positioned on the display region of the substrate **74**, a hydroscopic material layer **90** positioned on the buffer layer **88**, and a passivation layer **92** positioned on the hydroscopic material layer **90**. The hygroscopic material layer **90** is used to adsorb moisture generated internally from the PM-OLED **70** and penetrated through the passivation layer **92**, and the buffer layer **88** is used to prevent from affecting normal operation of the PM-OLED **70** when the hydroscopic material layer **90** reacts to the moisture. The detailed method for forming the hygroscopic passivation structure **90** is stated as below. First, a chemical vapor deposition (CVD) process is performed to form a buffer layer **88** on the substrate **74**. Then, a reaction ion etching (RIE) process is performed to remove a portion of the buffer layer outside the display region by utilizing a mask, as shown in **FIG. 3**. After that, a thermal plating process or an electron beam thermal plating process is performed to form a hygroscopic material layer **90** on the buffer layer **88**, and a passivation layer **92** is plated on the hygroscopic material layer **90** to accomplish the hygroscopic passivation structure **86** of the present invention. Typically, the buffer layer **88** is composed of polymer-like materials, such as parylene or diamond-like carbon (DLC). The buffer layer **88** has a thickness of approximately 1 angstrom (Å) to 100 micrometers (μm), and 10 Å to 10 μm is preferred. The hygroscopic material layer **90** is composed of calcium oxide (CaO), barium oxide (BaO), or magnesium oxide (MgO), and has a thickness of approximately 1 Å to 100 μm, and 10 Å to 10 μm is preferred. The passivation layer **92** is composed of polymer materials, ceramic materials, or metal, and the polymer materials are preferred to enhance adhesion ability with the hygroscopic material layer **90**. In addition, when the buffer layer **88** is composed of the DLC, the buffer layer **88** can be formed by performing a CVD process with a bias voltage and a mask to plate the buffer layer **88** on the metal layer **84**.

[0024] That is to say, the hydroscopic material layer **90** comprises alkaline-earth metal oxides. Since the alkaline-earth metal oxides are chemical adsorption materials, hydroxides, such as barium hydroxide ($Ba(OH)_2$), magnesium hydroxide ($Mg(OH)_2$), or calcium hydroxide ($Ca(OH)_2$) will be generated after the hydroscopic material layer **90** reacts to the moisture. Therefore, the moisture trapped in the hygroscopic material layer **90** will not be released into the PM-OLED **70** due to the environment temperature variations, and will not affect normal operation of the display units **72** of the PM-OLED **70**. Furthermore, the hydroscopic material layer **90** could be capped with the buffer layer **88** to prevent the hydroscopic material layer **90** from peeling off when the hydroscopic material layer **90** reacts to the moisture. Moreover, another buffer layer **94** could be positioned between the hydroscopic material layer **90** and the passivation layer **92**, as shown in **FIG. 5**, to prevent the moisture and oxygen gas from penetrating into the PM-OLED **70** efficiently.

[0025] As shown in **FIG. 6**, the hygroscopic passivation structure **60** can also be applied in various active type light emitting devices. When the display device **54** of the OLED **50** is composed of a plurality of active matrix type display units **102**, the OLED **50** is called an active matrix type OLED (AM-OLED) **100**. The AM-OLED **100** is formed on a thin film transistor (TFT) substrate **104**, and the display units **102** are separated by a plurality of insulating layers **106**. Each display unit **102** includes a transparent conductive layer **108** functioning as an anode of the AM-OLED **100** positioned on the TFT substrate **104**, an organic layer **110** positioned on the transparent conductive layer **108** and the insulating layers **106**, and a metal layer **112** functioning as a cathode of the AM-OLED **100** positioned on the organic layer **110**. Typically, the TFT substrate **104** includes a glass substrate, a plastic substrate, or a metal substrate. The insulating layers **106** can be composed of polymer or inorganic materials. The transparent conductive layer **108** can be composed of ITO or IZO. The metal layer **112** is composed of Mg, Al, Li, or an alloy of Mg, Al, and Li. In addition, each display unit **102** further includes a TFT **114** positioned under and electrically connected to the corresponding display unit **102**.

[0026] Furthermore, the AM-OLED **100** includes a hygroscopic passivation structure **114** covering the display region of the AM-OLED **100**. The hydroscopic passivation structure **114** mainly includes a buffer layer **116** positioned on the metal layer **112**, a hydroscopic material layer **18** positioned on the buffer layer **116**, and a passivation layer **120** positioned on the hydroscopic material layer **118**. The hygroscopic material layer **118** is used to adsorb moisture generated internally from the AM-OLED **100** and penetrated through the passivation layer **120**, and the buffer layer **116** is used to prevent from affecting normal operation of the AM-OLED **100** when the hydroscopic material layer **118** reacts to the moisture. The method for forming the hygroscopic passivation structure **114** is the same with the hygroscopic passivation structure **86**, and is not repeated again. Similarly, another buffer layer **122** can be positioned between the hydroscopic material layer **118** and the passivation layer **120**, as shown in **FIG. 7**, to prevent the moisture and oxygen gas penetrating through the passivation layer **120** efficiently.

[0027] Moreover, when the hygroscopic material layer **118** of the AM-OLED **100** is merely positioned on the buffer layer **116** above the insulating layer **106**, the AM-OLED **100** is called a top emission type OLED (TM-OLED) **130**, as shown in **FIG. 8**. Since a light emitting route of the TM-OLED **130** has to penetrate through the hygroscopic passivation structure **114**. If the hygroscopic material layer **118** of the hygroscopic passivation structure **114** is too thick, the glow of the TM-OLED **130** will be lowered, and therefore the hygroscopic material layer **118** is merely positioned on the insulating layer **106** to prevent the above-mentioned problem. The detailed method for forming the hygroscopic passivation structure **114** of the TMOLED **130** is stated as below. First, a CVD process is performed to form a buffer layer **116** on the metal layer **112**, and then a RIE process is performed to remove a portion of the buffer layer **116** outside the display region of the TM-OLED **130** by utilizing a mask, as shown in **FIG. 3**. Then, a thermal plating process or an electron beam thermal plating process is performed to form a hygroscopic material layer **118** on the buffer layer **116** by utilizing a slit mask, and a passivation layer **120** is plated on the hygroscopic material layer **118** to accomplish the hygroscopic passivation structure **114** of the TMOLED **130**.

[0028] Please refer to **FIG. 9** and **FIG. 10**, which are cross-sectional views illustrating another AM-OLED **140** according to the present invention. As shown in **FIG. 9**, the AM-OLED **140** mainly includes a TFT substrate **142**, a plurality of active matrix type display units **144** positioned on the TFT substrate **142**, a transparent conductive layer **146** positioned on the TFT substrate **142**, a plurality of insulating layers **148** positioned on the TFT substrate **142** for separating each display unit **144**, a hygroscopic material layer **150** positioned on the insulating layers **148**, a buffer layer **152** positioned on the hygroscopic material layer **150**, an organic layer **154** positioned on the buffer layer **152** and the transparent conductive layer **146**, a metal layer **156** positioned on the organic layer **154**, and a passivation layer **158** positioned on the metal layer **156**. Typically, the insulating layers **148** are mostly composed of polymer materials, such as polymide in recent manufacturing processes of the AM-OLED **140**. In order to prevent from affecting the organic layer **154** and the metal layer **156** due to the insulating layers **148** releasing moisture when the AM-OLED **140** is heated, the hygroscopic material layer **150** can be capped outside the insulating layers **148** to trap the moisture directly.

[**0029**] In addition, the hygroscopic material layer **150**, the buffer layer **152**, and the organic layer **154** can be positioned in turn according to demands of the OLED. As shown in **FIG. 10**, the buffer layer **152** is positioned on the insulating layers **148**, and the hygroscopic material layer **150** is positioned on the buffer layer **152**. Moreover, another buffer layer **160** can be positioned on the hygroscopic material layer **150** and the transparent conductive layer **146**, and then the passivation layer **158**, the metal layer **156**, and the organic layer **154** can be positioned on the buffer layer **160**, respectively. Therefore, the buffer layers **152** and **160** cover the hygroscopic material layer **150** completely to prevent the hygroscopic material layer **150** from peeling off when the hygroscopic material layer **150** reacts to the moisture.

[**0030**] In comparison with the conventional passivation structure of the OELD, the hygroscopic passivation structure of the present invention can trap the moisture penetrated through the outer passivation layer and the small amounts of moisture generated internally from the OLED by chemical adsorption. Therefore, the organic layer and the metal layer of the OLED are not destroyed by the moisture. In addition, the moisture trapped in the hygroscopic material layer is not only stored in the hygroscopic material layer, but a hydroxide chemical compound is generated after the hygroscopic material reacts to the moisture. Consequently, the moisture trapped in the hygroscopic material layer is not released easily when the OLED is in the high-temperature state, so as to increase the life of the OELD.

[**0031**] In summary, the hygroscopic passivation structure of the present invention including at least one buffer layer, a hygroscopic material layer, and a passivation layer is widely used in various light emitting devices, such as the flexible OELD, the AM-OLED, the PM-OLED, and the TM-OLED. In addition, the hygroscopic passivation structure of the present invention not only can adsorb the small amounts of moisture generated internally from the display device, but can also prevent the moisture from penetrating into the display device and affecting normal operation of the display device. Furthermore, the whole course for forming the hygroscopic passivation structure of the present invention is performed in a vacuum environment. Therefore, the display device does not make contact with the outside environment before the encapsulation process is completed, and the internal part of the display device does not retain the moisture and oxygen gas after finishing the encapsulation process. Moreover, the buffer layer, the hygroscopic material layer, and the organic layer of the hygroscopic passivation structure of the present invention can be positioned in turn according to demands of the manufacturing process. Consequently, the hygroscopic passivation structure of the present invention has advantages of being used widely, simplifying the manufacturing process, having better adsorption ability, and prevention from moistening well.

[**0032**] Those skilled in the art will readily observe that numerous modifications and alterations of the device may be made while retaining the teachings of the invention. Accordingly, the above disclosure should be construed as limited only by the metes and bounds of the appended claims.

What is claimed is:

1. A hygroscopic passivation structure of an organic electroluminescent display (OELD), comprising:

a first buffer layer positioned on a display region of the OELD;

a hygroscopic material layer positioned on the display region of the OELD; and

a passivation layer positioned on the display region of the OELD.

2. The hygroscopic passivation structure of claim 1 wherein the OELD is positioned on a substrate.

3. The hygroscopic passivation structure of claim 2 wherein the substrate comprises a glass substrate, a plastic substrate, or a metal substrate.

4. The hygroscopic passivation structure of claim 2 wherein the OELD comprises a plurality of passive matrix type display units or a plurality of active matrix type display units.

5. The hygroscopic passivation structure of claim 4 wherein each passive matrix type display unit and each active matrix type display unit both further comprise a transparent conductive layer positioned on the substrate, an organic layer positioned on the transparent conductive layer, and a metal layer positioned on the organic layer.

6. The hygroscopic passivation structure of claim 5 wherein the organic layer further comprises a hole transport layer (HTL) positioned on the transparent conductive layer, an emitting layer (EML) positioned on the HTL, and an electron transport layer (ETL) positioned on the EML.

7. The hygroscopic passivation structure of claim 4 further comprising a thin film transistor (TFT) positioned under and electrically connected to a corresponding active matrix type display unit.

8. The hygroscopic passivation structure of claim 7 wherein the OELD is a top emission type OELD, and the hygroscopic material layer is merely positioned on the display region of the OELD above each TFT.

9. The hygroscopic passivation structure of claim 1 wherein the first buffer layer comprises parylene or diamond-like carbon (DLC), and has a thickness of approximately 1 angstrom (Å) to 100 micrometers (μm).

10. The hygroscopic passivation structure of claim 1 wherein the hygroscopic material layer comprises calcium oxide (CaO), barium oxide (BaO), or magnesium oxide (MgO), and has a thickness of approximately 1 Å to 100 μm.

11. The hygroscopic passivation structure of claim 1 wherein the passivation layer comprises polymer materials, ceramic materials, or metal.

12. The hygroscopic passivation structure of claim 1 wherein the hydroscopic material layer is positioned on the first buffer layer, and the passivation layer is positioned on the hydroscopic material layer.

13. The hygroscopic passivation structure of claim 12 further comprising a second buffer layer positioned between the hydroscopic material layer and the passivation layer.

14. The hygroscopic passivation structure of claim 12 wherein the hygroscopic material layer is used to adsorb moisture generated internally from the OELD and penetrated through the passivation layer, and the first buffer layer is used to prevent from affecting normal operation of the OELD when the hydroscopic material layer reacts to the moisture.

15. The hygroscopic passivation structure of claim 1 wherein the first buffer layer is positioned on the hydroscopic material layer, and the passivation layer is positioned on the first buffer layer.

16. The hygroscopic passivation structure of claim 1 wherein the OELD further comprises a peripheral region.

* * * * *

专利名称(译)	有机电致发光显示器的吸湿钝化结构
公开(公告)号	US20040081852A1
公开(公告)日	2004-04-29
申请号	US10/249888
申请日	2003-05-15
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摘要(译)

覆盖有机电致发光显示器（OELD）的显示区域的吸湿钝化结构包括至少一个缓冲层，吸湿材料层和钝化层。吸湿材料用于吸附从OELD内部产生的水分并穿透外钝化层。