



US 20160104861A1

(19) **United States**(12) **Patent Application Publication**
Zeng(10) **Pub. No.: US 2016/0104861 A1**(43) **Pub. Date: Apr. 14, 2016**(54) **WHITE OLED DISPLAY DEVICE AND
PACKAGING METHOD THEREOF***H01L 51/00* (2006.01)*H01L 27/32* (2006.01)(71) Applicant: **Shenzhen China Star Optoelectronics
Technology Co. Ltd.**, Shenzhen,
Guangdong (CN)(52) **U.S. Cl.**CPC *H01L 51/5246* (2013.01); *H01L 27/322*
(2013.01); *H01L 51/5253* (2013.01); *H01L*
51/5259 (2013.01); *H01L 27/3244* (2013.01);
H01L 51/56 (2013.01); *H01L 51/005*
(2013.01); *H01L 51/0034* (2013.01); *H01L*
51/0081 (2013.01); *H01L 2251/303* (2013.01);
H01L 2251/301 (2013.01); *H01L 2227/323*
(2013.01)(72) Inventor: **Weijing Zeng**, Shenzhen (CN)(73) Assignee: **Shenzhen China Star Optoelectronics
Technology Co. Ltd.**, Shenzhen,
Guangdong (CN)(21) Appl. No.: **14/402,680**(57) **ABSTRACT**(22) PCT Filed: **Oct. 17, 2014**(86) PCT No.: **PCT/CN2014/088841**

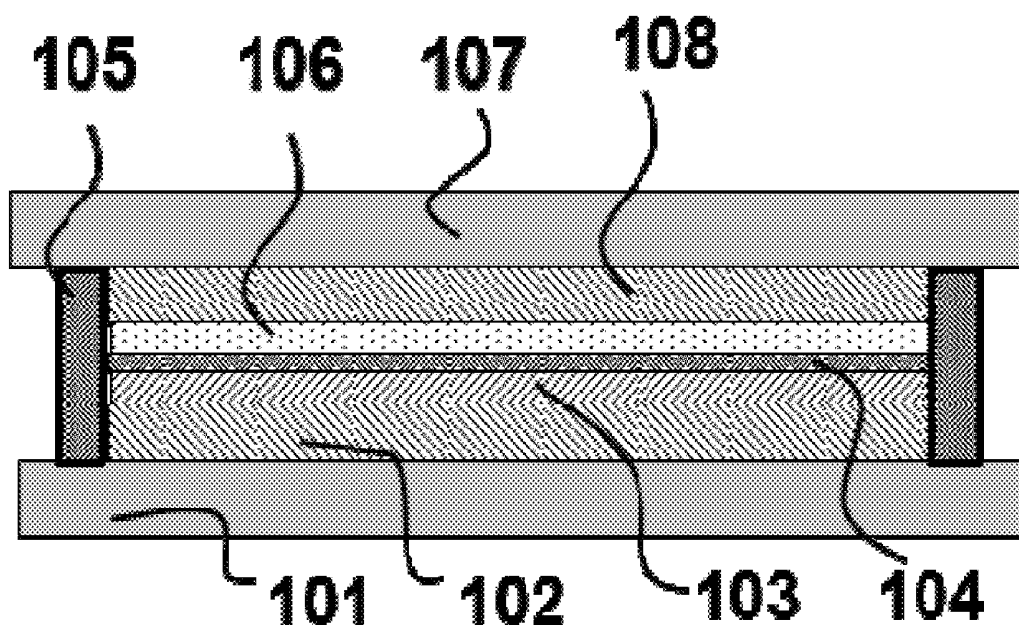
§ 371 (c)(1),

(2) Date: **Nov. 20, 2014**(30) **Foreign Application Priority Data**

Oct. 10, 2014 (CN) 2014105317836

Publication Classification(51) **Int. Cl.***H01L 51/52* (2006.01)*H01L 51/56* (2006.01)

The present invention provides a white OLED display device and a packaging method thereof. The white OLED display device includes: a glass cover plate, a color filter layer coated on the glass cover plate, a transparent protective layer covering the color filter layer, a hydrophobic layer self-assembled on the transparent protective layer, a desiccant layer disposed on the hydrophobic layer, and a TFT substrate disposed with a white OLED layer. The color filter layer, the transparent protective layer, the hydrophobic layer and the desiccant layer are sandwiched between the glass cover plate and the TFT substrate disposed with the white OLED layer. The white OLED display device provided by the invention disposes the hydrophobic layer on the transparent protective layer, which can avoid the occurrence of mura caused by uneven distribution of desiccant.



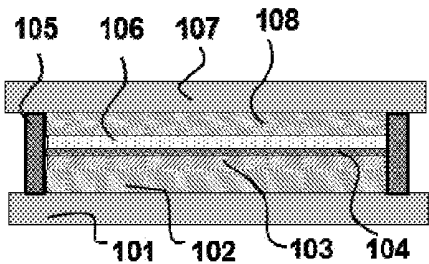


FIG. 1

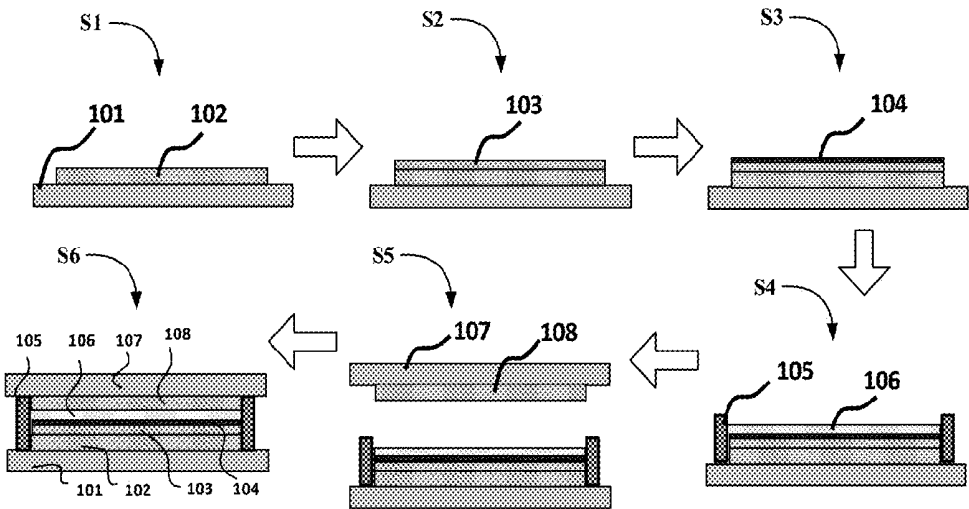


FIG. 2

WHITE OLED DISPLAY DEVICE AND PACKAGING METHOD THEREOF

TECHNICAL FIELD

[0001] The present invention relates to the field of display technology, and particularly to a white OLED display device and a packaging method thereof.

DESCRIPTION OF RELATED ART

[0002] OLED, i.e., organic light-emitting diode, has the characteristics of self-emissive, high brightness, wide viewing angle, high contrast, flexible and low energy consumption, etc., and thus has been widely concerned. The OLED as a new generation of display has begun to gradually replace the traditional LCD (Liquid crystal display) and widely used for mobile phone screens, computer monitors and full-color televisions, etc.

[0003] The traditional organic full-color display device is with RGB three-color pixels formed on a TFT substrate, but a manufacturing method thereof has a high requirement for fine mask, and thus it is difficult to achieve a high resolution display device. Therefore, a structure of white light plus color filter is adopted in the prior art to replace the RGB three-color pixels structure. The structure of display with white light plus color filter has been published in related patents.

[0004] Currently-used packaging technologies are: ultraviolet (UV) curing sealant, glass powder laser sealing, face sealing, sealant and desiccant fill sealing (dam and fill), film sealing and so on. The packaging method of dam and fill is more suitable for use in large-sized panel package.

[0005] As to a top-emission panel structure, if the liquid desiccant is unevenly distributed, it may cause the occurrence of mura (Mura is a phenomenon of various kinds of marks caused by uneven display brightness). The reason is as follows: the spreadability of liquid at an interface is relevant to the nature of the interface. A polar liquid has a good spreadability (i.e., the contact angle is small) at a hydrophilic interface while has a poor spreadability (i.e., the contact angle is large) at a hydrophobic interface. On the contrary, a non-polar liquid has a poor spreadability at the hydrophilic interface while has a good spreadability at the hydrophobic interface. An untreated inorganic protective layer interface generally is a hydrophilic interface, but most of liquid desiccants are non-polar organics. Accordingly, in general, the desiccant has a poor spreadability on the CF (color filter) protective layer, and thus uneven distribution phenomenon of the desiccant during the production process easily occurs.

SUMMARY

[0006] Accordingly, embodiments of the present invention provides a white OLED display device and a packaging method thereof, so as to solve the technical problem of the occurrence of mura caused by uneven distribution of desiccant in the prior art.

[0007] In order to solve the above described technical problem, an embodiment of the present invention provides a white OLED display device. The display device includes: a glass cover plate, a color filter layer coated on the glass cover plate, a transparent protective layer covering the color filter layer, a hydrophobic layer self-assembled on the transparent protective layer, a desiccant layer disposed on the hydrophobic layer, and a TFT substrate formed with a white OLED layer. The color filter layer, the transparent protective layer, the

hydrophobic layer and the desiccant layer are sandwiched between the glass cover plate and the TFT substrate formed with the white OLED layer.

[0008] According to a preferred embodiment of the present invention, the white OLED display device further includes a sealant. The sealant is disposed at the periphery of the color filter layer, the transparent protective layer, the desiccant layer, the hydrophobic layer and the white OLED layer and sandwiched between the glass cover plate and the TFT substrate for sealing and protecting internal coatings of the white OLED display device. The transparent protective layer is an Al₂O₃ layer, a WO₃ layer, a ZnO layer or a ZnSe layer, which does not chemically react with the desiccant layer and is dense. An area of the transparent protective layer is larger than or equal to an area of the color filter layer to ensure the transparent protective layer completely covering the color filter.

[0009] According to a preferred embodiment of the present invention, the hydrophobic layer is an organic acid molecule containing alkyl chain, a chemical formula thereof is a fatty acid R—(CH₂)_nCOOH, where $n \geq 1$, R is a terminal group selected from the group consisting of methyl, vinyl and ethynyl.

[0010] According to a preferred embodiment of the present invention, the glass cover plate, the color filter layer, the transparent protective layer, the desiccant layer and the hydrophobic layer are vacuum bonded with the TFT substrate formed with the white OLED layer. A filling method for the desiccant layer is screen printing, drop coating or dispensing. The sealant is cured at the periphery of the color filter layer, the transparent protective layer, the desiccant layer, the hydrophobic layer and the white OLED layer by ultraviolet light radiation.

[0011] According to a preferred embodiment of the present invention, the color filter layer is formed by coating RGB photo resists on the glass cover plate. The desiccant layer is a curable liquid desiccant, and the desiccant layer is cured on the transparent protective layer by heating or ultraviolet light radiation. The curable liquid desiccant is an aluminium-containing polymer and a chemical formula thereof is [R—O—Al=O]_n, where $n \geq 1$.

[0012] In order to solve the above technical problem, another embodiment of the present invention provides a packaging method of a white OLED display device. The packaging method includes the following steps: coating a color filter layer on a glass cover plate; coating a transparent protective layer on the color filter layer to cover the color filter layer; self-assembling a hydrophobic layer on the transparent protective layer; disposing a desiccant layer on the hydrophobic layer; disposing a white OLED layer on a TFT substrate; and bonding the TFT substrate disposed with the white OLED layer with the glass cover plate disposed with the color filter layer, the transparent protective layer, the hydrophobic layer and the desiccant layer in a vacuum environment to thereby form a white OLED display device.

[0013] According to a preferred embodiment of the present invention, the packaging method further includes: coating a sealant at the periphery of the color filter layer, the transparent protective layer, the desiccant layer and the hydrophobic layer and whereby the sealant is sandwiched between the glass cover plate and the TFT substrate for sealing and protecting internal coating of the white OLED display device. The transparent protective layer is an Al₂O₃ layer, a WO₃, a ZnO layer or a ZnSe layer, which does not chemically react

with the desiccant layer and is dense. An area of the transparent protective layer is larger than or equal to an area of the color filter layer to ensure the transparent protective layer completely covering the color filter layer.

[0014] According to a preferred embodiment of the present invention, the hydrophobic layer is an organic acid molecule containing alkyl chain, and a chemical formula thereof is a fatty acid $R-(CH_2)_nCOOH$, where $n \geq 1$, R is a terminal group selected from the group consisting of methyl, vinyl and ethynyl.

[0015] According to a preferred embodiment of the present invention, the glass cover plate, the color filter layer, the transparent protective layer, the desiccant layer and the hydrophobic layer are vacuum bonded with the TFT substrate disposed with the white OLED layer. A filling method for the desiccant layer is screen printing, drop coating or dispensing. The sealant is cured at the periphery of the color filter layer, the transparent protective layer, the desiccant layer, the hydrophobic layer and the white OLED layer by ultraviolet light radiation.

[0016] According to a preferred embodiment of the present invention, the color filter layer is formed by coating RGB photo resists on the glass cover plate. The desiccant layer is a curable liquid desiccant, and the desiccant layer is cured on the transparent protective layer by heating or ultraviolet light radiation. The curable liquid desiccant is an aluminium-containing polymer, and a chemical formula thereof is $[R-O-Al=O]_n$, where $n \geq 1$.

[0017] Compared with the prior art, the white OLED display device and the manufacturing method thereof provided by the present invention dispose the hydrophobic layer on the transparent protective layer, which can avoid the occurrence of mura caused by uneven distribution of desiccant.

BRIEF DESCRIPTION OF THE DRAWINGS

[0018] In order to more clearly illustrate the technical solutions of various embodiments of the present invention, drawings will be used in the description of embodiments will be given a brief description below. Apparently, the drawings in the following description only are some embodiments of the invention, the ordinary skill in the art can obtain other drawings according to these illustrated drawings without creative effort. In the drawings:

[0019] FIG. 1 is a schematic structural view of a preferred embodiment of a white OLED display device according to the present invention; and

[0020] FIG. 2 is a flowchart of a packaging method of a white OLED display device according to the present invention.

DETAILED DESCRIPTION OF EMBODIMENTS

[0021] In the following, with reference to accompanying drawings of embodiments of the present invention, technical solutions in the embodiments of the present invention will be clearly and completely described. Apparently, the embodiments of the present invention described below only are a part of embodiments of the present invention, but not all embodiments. Based on the described embodiments of the present invention, all other embodiments obtained by ordinary skill in the art without creative effort belong to the scope of protection of the present invention.

[0022] Referring to FIG. 1, FIG. 1 is a schematic structural view of a preferred embodiment of a white OLED display

device according to the invention. The white OLED display device includes: a glass cover plate **101**, a color filter (CF) layer **102**, a transparent protective layer **103**, a hydrophobic layer **104**, a desiccant layer **106**, a white OLED layer **108** and a TFT (thin film transistor) substrate **107**.

[0023] Concretely speaking, the color filter layer **102** is coated on the glass cover plate **101**. The color filter layer **102** is formed by coating RGB photo resists on the glass cover plate **101**.

[0024] The transparent protective layer **103** covers the color filter layer **102**. The transparent protective layer **103** is an Al_2O_3 (aluminium oxide) layer, a WO_3 (tungsten trioxide) layer, a ZnO (zinc oxide) layer or a $ZnSe$ (zinc selenide) layer, which does not chemically react with the desiccant layer and is dense. Of course, the transparent protective layer may be other inorganic coating, and it is not limited herein.

[0025] In addition, an area of the transparent protective layer **103** is larger than or equal to an area of the color filter layer **102** to ensure the transparent protective layer **103** completely covering the color filter layer **102** and provide the color filter layer **102** with complete protection.

[0026] The hydrophobic layer **104** is formed on the transparent protective layer **103** by self-assembly. The so-called self-assembly is a technique that makes basic structural units (such as molecules, nanomaterials, micro or even more large-sized substances) spontaneously form an ordered structure. In the self-assembling process, the basic structural units spontaneously organize or aggregate into a stable structure with certain regular geometric appearance based on non-covalent interactions.

[0027] The hydrophobic layer **104** may be an organic acid molecule containing an alkyl chain, e.g., a fatty acid, a chemical formula thereof is $R-(CH_2)_nCOOH$, where $n \geq 1$, R is a terminal group such as methyl, vinyl or ethynyl.

[0028] The desiccant layer **106** is disposed on the hydrophobic layer **104**. A coating method for the desiccant layer **106** may be screen printing, drop coating, or dispensing, etc. The desiccant layer **106** may be a curable liquid desiccant, for example a thermosetting liquid desiccant, the desiccant layer is cured on the hydrophobic layer **104** by heating or ultraviolet (UV) light radiation. The curable liquid desiccant may be an aluminium-containing polymer, and a chemical formula thereof is $[R-O-Al=O]_n$, where $n \geq 1$.

[0029] The white OLED layer **108** is disposed on the TFT substrate **107**. The glass cover plate **101**, the color filter layer **102**, the transparent protective layer **103**, the hydrophobic layer **104** and the desiccant layer **106** together are bonded with the TFT substrate **107** formed with the white OLED layer **108** in a vacuum environment, so as to ensure the display effect of the display device being not affected by gas existing among these layers.

[0030] Preferably, the white OLED display device further includes a sealant **105**. The sealant **105** is disposed at the periphery of the color filter layer **102**, the transparent protective layer **103**, the hydrophobic layer **104** and the desiccant layer **106**, i.e., outside an AA (active area) of the glass cover plate **101** and sandwiched between the glass cover plate **101** and the TFT substrate **107**, so as to seal and protect internal coatings of the white OLED display device. The sealant **105** can be cured at the periphery of the color filter layer **102**, the transparent protective layer **103**, the hydrophobic layer **104** and the desiccant layer **106** by ultraviolet light radiation.

[0031] The white OLED display device provided by the embodiment of the invention disposes the hydrophobic layer

on the transparent protective layer, which can avoid the occurrence of mura caused by uneven distribution of desiccant to affect the display effect of the display device.

[0032] Another embodiment of the invention provides a packaging method of white OLED display device. Referring to FIG. 2, FIG. 2 is a flowchart of the packaging method of a white OLED display device according to the invention. The packaging method includes but not limited to the following steps:

[0033] STEP 1, RGB photo resists are coated on a glass cover plate 101 to form a CF (color filter) layer 102. The CF layer 102 covers the AA (active area) of the display device.

[0034] STEP 2, a transparent protective layer 103 is formed on the CF layer 102. An area of the transparent protective layer 103 is larger than or equal to an area of the CF layer 102, so as to ensure the transparent protective layer 103 completely covering the color filter layer 102 and thereby provide the color filter layer 102 with complete protection.

[0035] The transparent protective layer 103 is an Al₂O₃ layer, a WO₃ layer, a ZnO layer or a ZnSe layer, which does not chemically react with the desiccant layer 106 and is dense. Of course, the transparent protective layer 103 may be other inorganic coating, and it is not limited herein.

[0036] STEP 3, a hydrophobic layer 104 is formed on the transparent protective layer 103 by self-assembly. The so-called self-assembly is a technique that basic structural units (such as molecules, nanomaterials, micro or even more large-sized substance) spontaneously form an ordered structure. In the self-assembling process, the basic structural units spontaneously organize or aggregate into a stable structure with certain regular geometric appearance based on non-covalent interactions.

[0037] The hydrophobic layer 104 may be an organic acid molecule containing alkyl chain, e.g., a fatty acid with a chemical formula R—(CH₂)_nCOOH, where n≥1, R is a terminal group such as methyl, vinyl or ethynyl.

[0038] STEP 4, a sealant 105 is coated outside an AA (active area) of the glass cover plate 101, and a liquid desiccant 106 is filled inside the sealant 105 and on the hydrophobic layer 104.

[0039] A filling method of the desiccant layer 106 may be screen printing, drop coating, or dispensing, etc. The desiccant layer 106 may be a curable liquid desiccant, for example a thermosetting liquid desiccant, and the desiccant layer 106 is cured on the hydrophobic layer 104 by heating or ultraviolet (UV) light radiation. The curable liquid desiccant may be an aluminium-containing polymer, and a chemical formula thereof is [R—O—Al—O]_n, where n≥1.

[0040] The sealant 105 is coated at the periphery of the color filter layer 102, the transparent protective layer 103, the hydrophobic layer 104 and the desiccant layer 106, i.e., outside the AA of the glass cover plate 101 and sandwiched between the glass cover plate 101 and the TFT substrate 107, so as to seal and protect internal coatings of the white OLED display device.

[0041] STEP 5, the glass cover plate 101 is bonded with the TFT substrate 107 formed with a white OLED layer 108 in a vacuum environment, so as to ensure the display effect of the display device being not affected by gas existing between the substrate and the plate.

[0042] STEP 6, the sealant 105 is cured. Specifically, the sealant 105 can be cured at the periphery of the color filter layer 102, the transparent protective layer 103, the hydropho-

bic layer 104 and the desiccant layer 106 by ultraviolet (UV) light radiation or heating via other heat source.

[0043] The packaging method of a white OLED display device provided by the embodiment of the invention disposes the hydrophobic layer on the transparent protective layer, which can avoid the occurrence of mura caused by uneven distribution of desiccant to affect the display effect of the display device. Moreover, the sealant is cured by UV, which can ensure the substrate and the plate being securely fasten together and having an excellent sealing therebetween.

[0044] While the invention has been described in terms of what is presently considered to be the most practical and preferred embodiments, it is to be understood that the invention needs not be limited to the disclosed embodiment. On the contrary, it is intended to cover various modifications and similar arrangements included within the spirit and scope of the appended claims which are to be accorded with the broadest interpretation so as to encompass all such modifications and similar structures.

What is claimed is:

1. A white OLED (organic light-emitting diode) display device comprising:

- a glass cover plate;
- a color filter layer coated on the glass cover plate;
- a transparent protective layer covering the color filter layer;
- a hydrophobic layer self-assembled on the transparent protective layer;
- a desiccant layer disposed on the hydrophobic layer; and
- a TFT substrate formed with a white OLED layer;

wherein the color filter layer, the transparent protective layer, the hydrophobic layer and the desiccant layer are sandwiched between the glass cover plate and the TFT substrate formed with the white OLED layer;

wherein the white OLED display device further comprises a sealant, the sealant is coated at the periphery of the color filter layer, the transparent protective layer, the desiccant layer, the hydrophobic layer and the white OLED layer and sandwiched between the glass cover plate and the TFT substrate to thereby seal and protect internal coatings of the white OLED display device; the transparent protective layer is a Al₂O₃ layer, a WO₃ layer, a ZnO layer or a ZnSe layer, which does not chemically react with the desiccant layer and is dense, and an area of the transparent protective layer is larger than or equal to an area of the color filter layer to thereby ensure the transparent protective layer completely covering the color filter layer; the glass cover plate, the color filter layer, the transparent protective layer, the desiccant layer and the hydrophobic layer are vacuum bonded with the TFT substrate formed with the white OLED layer; a filling method for the desiccant layer is screen printing, drop coating or dispensing.

2. A white OLED (organic light-emitting diode) display device comprising:

- a glass cover plate;
 - a color filter layer disposed on the glass cover plate by coating;
 - a transparent protective layer covering the color filter layer;
 - a hydrophobic layer formed on the transparent protective layer by self-assembly;
 - a desiccant layer disposed on the hydrophobic layer; and
 - a TFT substrate formed with a white OLED layer;
- wherein the color filter layer, the transparent protective layer, the hydrophobic layer and the desiccant layer are

sandwiched between the glass cover plate and the TFT substrate formed with the white OLED layer.

3. The white OLED display device according to claim 2, wherein the white OLED display device further comprises a sealant; the sealant is disposed at the periphery of the color filter layer, the transparent protective layer, the desiccant layer, the hydrophobic layer and the white OLED layer by coating and sandwiched between the glass cover plate and the TFT substrate to thereby seal and protect internal coatings of the white OLED display device.

4. The white OLED display device according to claim 3, wherein the transparent protective layer is an Al₂O₃ layer, a WO₃ layer, a ZnO layer or a ZnSe layer, which does not chemically react with the desiccant layer and is dense.

5. The white OLED display device according to claim 4, wherein an area of the transparent protective layer is larger than or equal to an area of the color filter layer to thereby ensure the transparent protective layer completely covering the color filter layer.

6. The white OLED display device according to claim 5, wherein the hydrophobic layer is an organic acid molecule containing alkyl chain, and a chemical formula is a fatty acid $R-(CH_2)_nCOOH$, where $n \geq 1$, R is a terminal group selected from the group consisting of methyl, vinyl and ethynyl.

7. The white OLED display device according to claim 6, wherein the glass cover plate, the color filter layer, the transparent protective layer, the desiccant layer and the hydrophobic layer together are vacuum bonded to the TFT substrate formed with the white OLED layer.

8. The white OLED display device according to claim 7, wherein a filling method for the desiccant layer is screen printing, drop coating or dispensing.

9. The white OLED display device according to claim 8, wherein the sealant is cured at the periphery of the color filter layer, the transparent protective layer, the desiccant layer, the hydrophobic layer and the white OLED layer by ultraviolet light radiation.

10. The white OLED display device according to claim 9, wherein the color filter layer is formed by coating RGB photo resists on the glass cover plate;

the desiccant layer is a curable liquid desiccant, the desiccant layer is cured on the transparent protective layer by heating or ultraviolet light radiation, and the curable liquid desiccant is an aluminium-containing polymer and a chemical formula thereof is $[R-O-Al=O]_n$, where $n \geq 1$.

11. A packaging method of a white OLED display device, comprising the following steps:

coating a color filter layer on a glass cover plate;

coating a transparent protective layer on the color filter layer to cover the color filter layer;

self-assembling a hydrophobic layer on the transparent protective layer;

disposing a desiccant layer on the hydrophobic layer;

disposing a white OLED layer on a TFT substrate;

vacuum bonding the TFT substrate disposed with the white OLED layer with the glass cover plate disposed with the color filter layer, the transparent protective layer, the hydrophobic layer and the desiccant layer, to thereby form a white OLED display device.

12. The packaging method according to claim 11, wherein the packaging method further comprises: coating a sealant at the periphery of the color filter layer, the transparent protective layer, the desiccant layer and the hydrophobic layer and whereby the sealant is sandwiched between the glass cover plate and the TFT substrate to seal and protect internal coatings of the white OLED display device.

13. The packaging method according to claim 12, wherein the transparent protective layer is an Al₂O₃ layer, a WO₃ layer, a ZnO layer or a ZnSe layer, which does not chemically react with the desiccant layer and is dense.

14. The packaging method according to claim 13, wherein an area of the transparent protective layer is larger than or equal to an area of the color filter layer to thereby ensure the transparent protective layer completely covering the color filter layer.

15. The packaging method according to claim 14, wherein the hydrophobic layer is an organic acid molecule containing alkyl chain, and a chemical formula thereof is a fatty acid $R-(CH_2)_nCOOH$, where $n \geq 1$, R is a terminal group selected from the group consisting of methyl, vinyl and ethynyl.

16. The packaging method according to claim 15, wherein the glass cover plate, the color filter layer, the transparent protective layer, the desiccant layer and the hydrophobic layer are vacuum bonded with the TFT substrate disposed with the white OLED layer.

17. The packaging method according to claim 16, wherein a filling method for the desiccant layer is screen printing, drop coating or dispensing.

18. The packaging method according to claim 17, wherein the sealant is cured at the periphery of the color filter layer, the transparent protective layer, the desiccant layer, the hydrophobic layer and the white OLED layer by ultraviolet light radiation.

19. The packaging method according to claim 18, wherein the color filter layer is formed by coating RGB photo resists on the glass cover plate; the desiccant layer is a curable liquid desiccant, the desiccant layer is cured on the transparent protective layer by heating or ultraviolet light radiation, the curable liquid desiccant is an aluminium-containing polymer and a chemical formula thereof is $[R-O-Al=O]_n$, where $n \geq 1$.

* * * * *

专利名称(译)	白色OLED显示装置及其封装方法		
公开(公告)号	US20160104861A1	公开(公告)日	2016-04-14
申请号	US14/402680	申请日	2014-10-17
[标]申请(专利权)人(译)	深圳市华星光电技术有限公司		
申请(专利权)人(译)	深圳中星光电科技有限公司		
当前申请(专利权)人(译)	深圳市中国星光电科技有限公司.		
[标]发明人	ZENG WEIJING		
发明人	ZENG, WEIJING		
IPC分类号	H01L51/52 H01L51/56 H01L51/00 H01L27/32		
CPC分类号	H01L51/5246 H01L27/322 H01L51/5253 H01L51/5259 H01L27/3244 H01L2227/323 H01L51/005 H01L51/0034 H01L51/0081 H01L2251/303 H01L2251/301 H01L51/56 H01L51/0024 H01L51/5036 H01L51/5284		
优先权	201410531783.6 2014-10-10 CN		
其他公开文献	US9373812		
外部链接	Espacenet USPTO		

摘要(译)

本发明提供一种白色OLED显示装置及其封装方法。白色OLED显示装置包括：玻璃盖板，涂覆在玻璃盖板上的彩色滤光层，覆盖彩色滤光层的透明保护层，自组装在透明保护层上的疏水层，设置在其上的干燥剂层疏水层和设置有白色OLED层的TFT基板。滤色器层，透明保护层，疏水层和干燥剂层夹在玻璃盖板和设置有白色OLED层的TFT基板之间。本发明提供的白色OLED显示装置将疏水层设置在透明保护层上，可以避免干燥剂分布不均匀引起的mura的发生。

