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(54) **IMAGE SENSOR PACKAGE**

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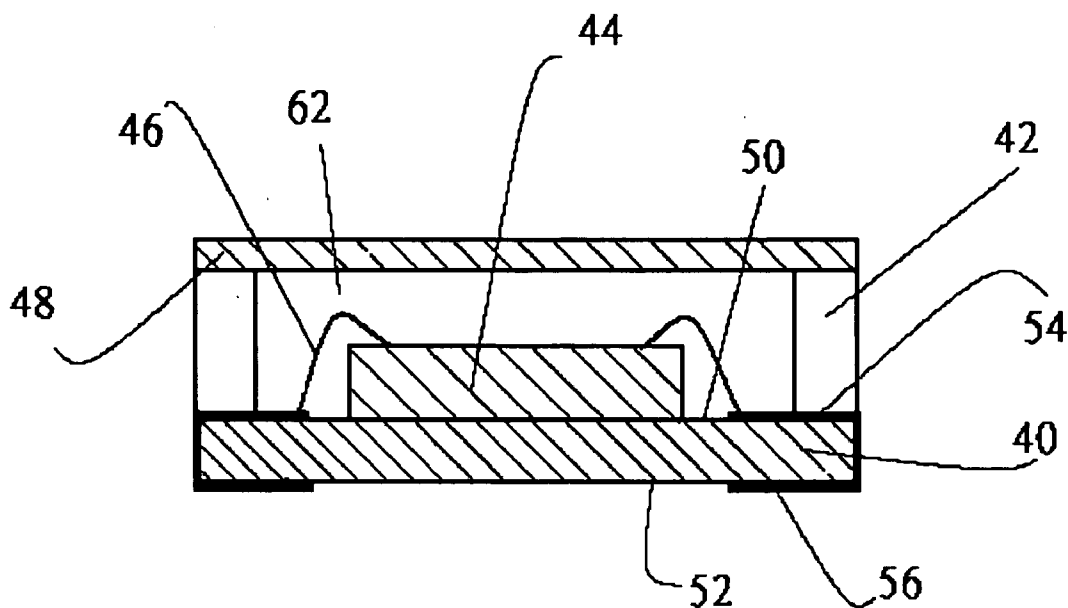
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(57) **ABSTRACT**

An image sensor package includes a substrate, a frame layer, a photosensitive chip, wires, and transparent layer. The substrate has an upper surface on which first electrodes are formed, and a lower surface on which second electrodes are formed, wherein the each first electrode is curved. The frame layer is arranged on the upper surface of the substrate to form a cavity together with the substrate. The photosensitive chip is arranged within the cavity and is mounted on the upper surface of the substrate. The plurality of wires are electrically connected the photosensitive chip to the first electrode of the substrate. The transparent layer is covered over the frame layer to cover the photosensitive chip.



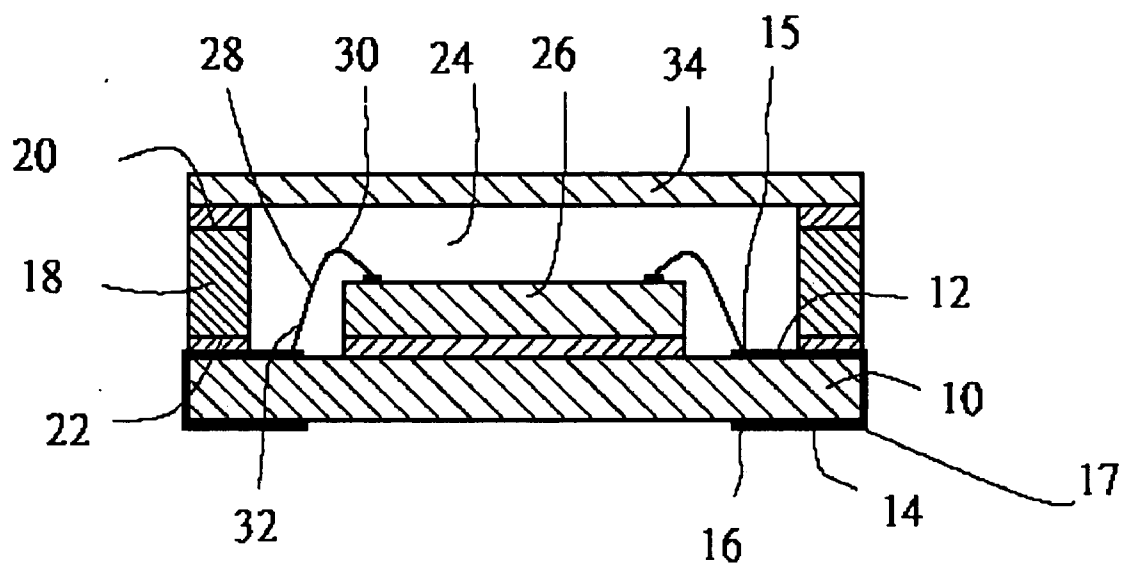


FIG. 1(Prior Art)

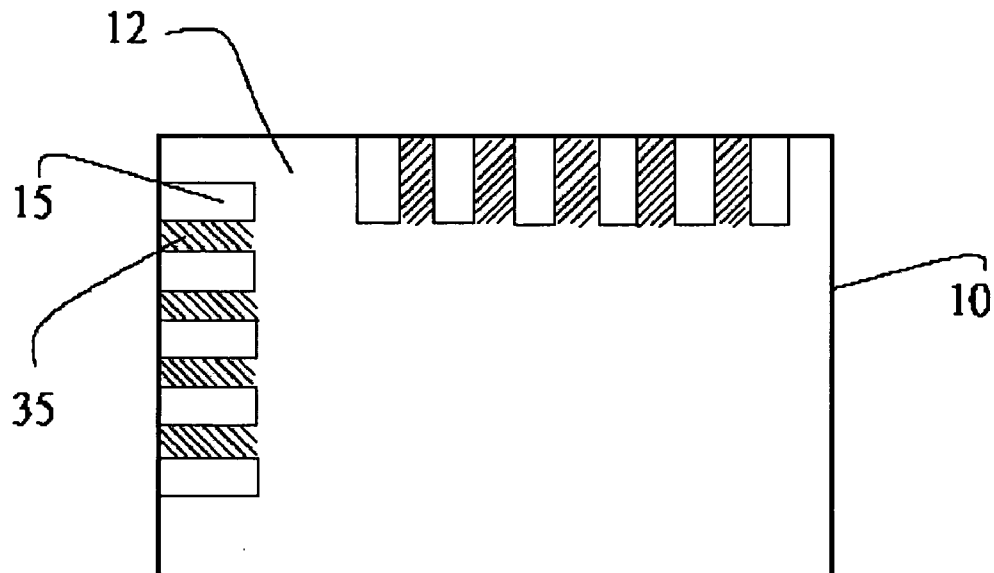


FIG. 2(Prior Art)

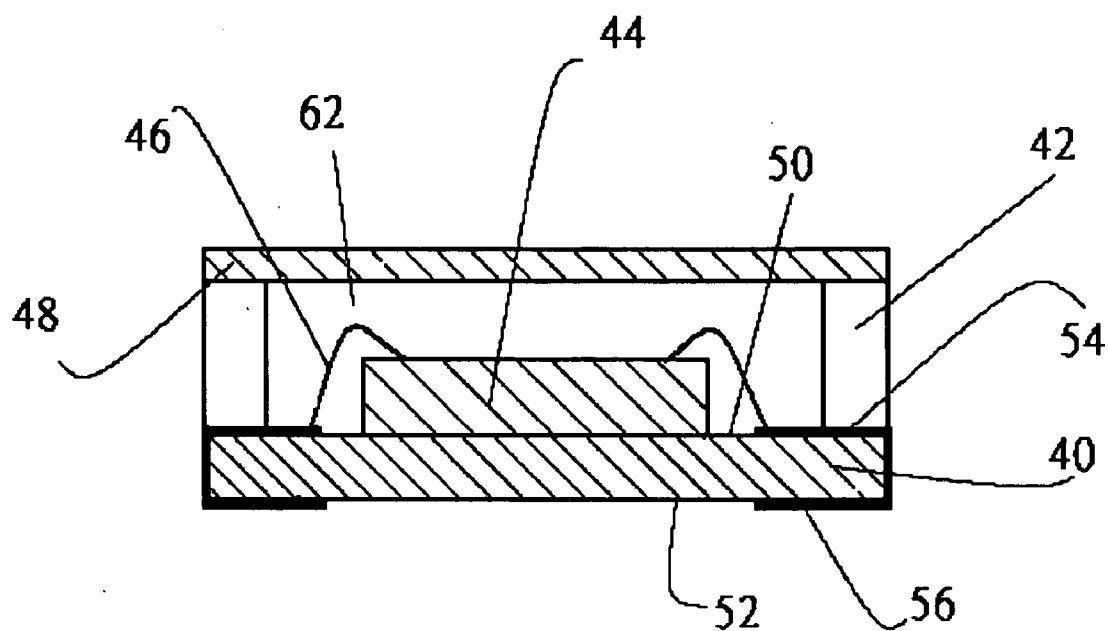


FIG. 3

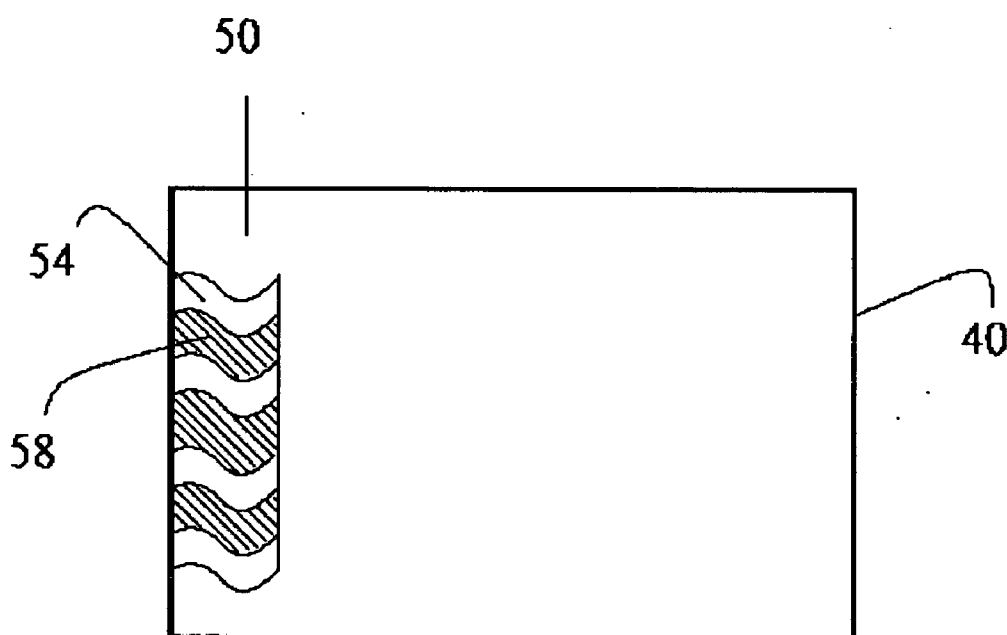


FIG. 4

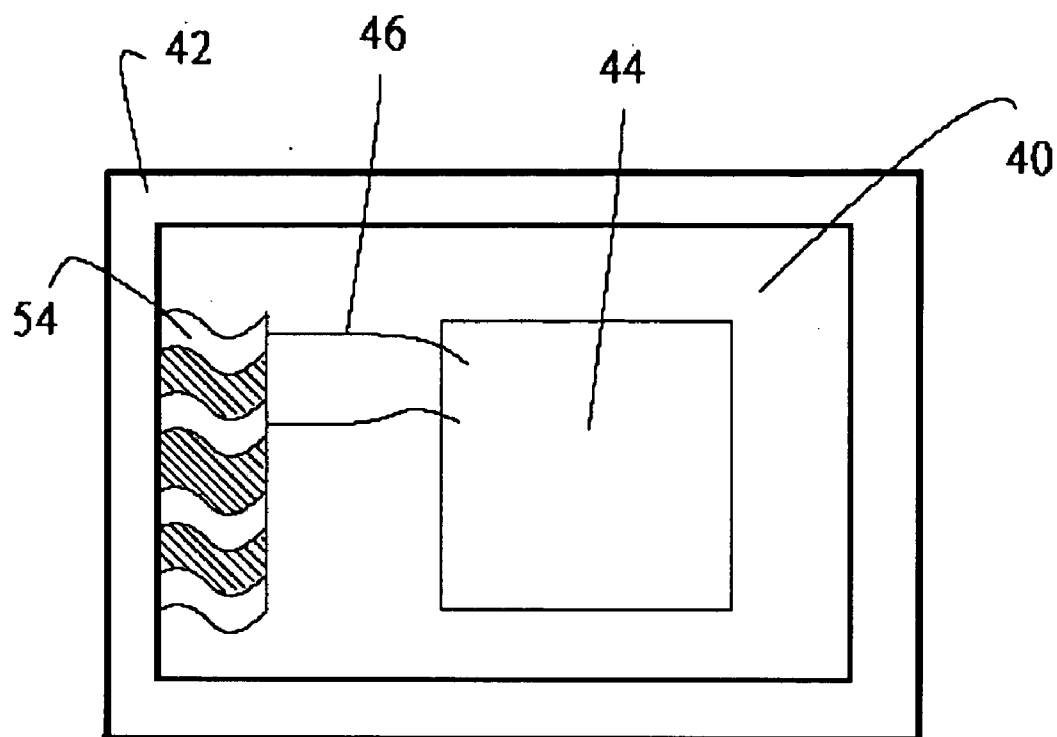


FIG. 5

IMAGE SENSOR PACKAGE

BACKGROUND OF THE INVENTION

[0001] 1. Field of the invention

[0002] The invention relates to an image sensor package, and in particular to an image sensor is capable of increasing the reliability of the product.

[0003] 2. Description of the Related Art

[0004] Referring to **FIG. 1**, it is a conventional image sensor includes a substrate **10**, a frame layer **18**, a photo-sensitive chip **26**, a plurality of wires **28**, and a transparent layer **34**.

[0005] The substrate **10** has a first surface **12** on which a plurality of first electrodes **15** are formed, and a second surface **14** on which a plurality of second electrodes **16** are formed. The first electrodes **15** are corresponding to electrically connect to the second electrodes **16** by the conductive wires **17**, which are located at the side of the substrate. The frame layer **18** has an upper surface **20** and a lower surface **22** adhered to the first surface **12** of the substrate **10** to form a chamber **24** together with the substrate **10**. The photosensitive chip **26** is arranged within the chamber **24**, and is mounted to the first surface **12** of the substrate **10**. Each wire **28** has a first terminal **30** and a second terminal **32**. The first terminals **30** are electrically connected to the photosensitive chip **26**, and the second terminals **32** are electrically connected to the first electrodes **15** of the substrate **10**. The transparent layer **34** is adhered to the upper surface **20** of the frame layer **18**.

[0006] Referring to **FIG. 2**, it is a top view of the substrate of the **FIG. 1**. The each electrode **15** of the substrate **10** is arranged in straight line, and a green paint **35** is coated between the each first electrode **15**. The frame layer **18** is mounted on the green paint **35**. Therefore, The wet-air from the atmosphere air will enter the internal of the product through the gap between the green paint **35** and first electrode **15**, so that the reliability of the product may be reduced.

SUMMARY OF THE INVENTION

[0007] An object of the invention is to provide an image sensor package, it can prevent the wet-air from the atmosphere air to enter the internal of the product. So as to, may be enhanced the reliability of the product

[0008] To achieve the above-mentioned object, the invention provides a substrate, a frame layer, a photosensitive chip, wires and transparent layer. The substrate has an upper surface on which first electrodes are formed, and a lower surface on which second electrodes are formed, wherein the each first electrode is curved. The frame layer is arranged on the upper surface of the substrate to form a cavity together with the substrate. The photosensitive chip is arranged within the cavity and is mounted on the upper surface of the substrate. The plurality of wires are electrically connected the photosensitive chip to the first electrode of the substrate. The transparent layer is covered over the frame layer to cover the photosensitive chip.

BRIEF DESCRIPTION OF THE DRAWINGS

[0009] **FIG. 1** is a cross-sectional view showing a conventional image sensor package.

[0010] **FIG. 2** is a top-view showing an conventional image sensor package.

[0011] **FIG. 3** is a cross-sectional view showing an image sensor package of the present invention.

[0012] **FIG. 4** is a top-view showing a substrate of image sensor package of the present invention

[0013] **FIG. 5** is a top-view showing an image sensor package of the present invention

DETAILED DESCRIPTION OF THE INVENTION

[0014] Please refer to **FIG. 3**, **FIG. 4**, and **FIG. 5**, it is an image sensor package of the present invention includes a substrate **40**, a frame layer **42**, a photosensitive chip **44**, wires **46**, and a transparent layer **48**.

[0015] The substrate **40** has an upper surface **50** on which first electrodes **54** are formed, and a lower surface **52** on which second electrodes **56** are formed. The first electrodes **54** are corresponding to electrically connect to the second electrode **56**, wherein the each first electrode **54** is curved, in the embodiment, the each first electrode **54** is S-shape. A green-paint **58** is coated between the each first electrode **54** of the substrate **40**.

[0016] The frame layer **42** is arranged on the upper surface **50** of the substrate **40** to form a cavity **62** together with the substrate **40**.

[0017] The photosensitive chip **44** is arranged within the cavity **62** and is mounted on the upper surface **50** of the substrate **40**.

[0018] The plurality of wires **46** are electrically connected the photosensitive chip **44** to the first electrode **54** of the substrate **40**.

[0019] The transparent layer **48** is covered over the frame layer **42** to cover the photosensitive chip **44**.

[0020] Therefore, the first electrodes man prevent the wet-air to enter the internal of the product, thus, the reliability of the product may be enhanced.

[0021] While the invention has been described by way of an example and in terms of a preferred embodiment, it is to be understood that the invention is not limited to the disclosed embodiment. On the contrary, it is intended to cover various modifications. Therefore, the scope of the appended claims should be accorded the broadest interpretation so as to encompass all such modifications.

1. An image sensor package, the package comprising:

a substrate having an upper surface on which first electrodes are formed, and a lower surface on which second electrodes are formed, the first electrodes are corresponding to electrically connect to the second electrode, wherein the each first electrode is curved;

a frame layer arranged on the upper surface of the substrate to form a cavity together with the substrate;

a photosensitive chip arranged within the cavity and mounted on the upper surface of the substrate;

a plurality of wires electrically connected the photosensitive chip to the first electrode of the substrate; and

a transparent layer covered over the frame layer to cover the photosensitive chip.

2. The image sensor package according to claim 1, wherein a green-paint is coated between the each first electrode of the substrate.

3. The image sensor package according to claim 1, wherein the each first electrode is S-shape.

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